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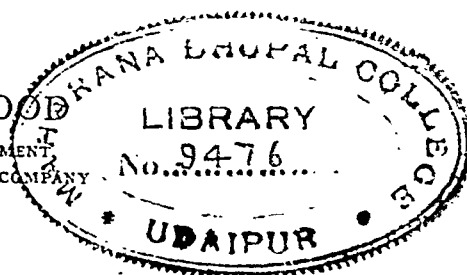
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# SALARIES, WAGES AND LABOR RELATIONS

By

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## PREFACE

Since the beginning of the machine age, industry has passed through many changes. The principal result has been the modern corporation and its organization of production. One of the chief problems which its development has presented is with respect to the status of the individual employed and his compensation.

For many years occupational classifications including definitions and salary schedules have been in use in civil service institutions as means to orderly treatment of the problem. Until the last few years, however, they were uncommon in industry. It has been generally taken for granted that salaries and wages are just the prices or "going rates" paid in a community for labor of various kinds.

Reflection upon the situation discloses that the "going rate" theory of wages in modern industry is obsolete in every exact sense. People work, not in industry at large, nor as classes of workers, but as individuals employed in enterprises. In each enterprise they work in specialized jobs, not in competition but in cooperation by organization. The enterprise is a self-contained, self-sustaining entity of production. Organizations are developed differently and some are more prosperous than others. Their jobs differ and individuals must be trained within an organization to fill their jobs efficiently. They must be encouraged to retain them and develop themselves if the enterprise is to be conducted economically and compete with others. Realizing these circumstances we cannot wonder why "going rates" are not to be found in any exact sense.

The problem therefore reverses itself largely from an external to an internal inquiry. We must know our own busi-

ness—what are the jobs of all of the people in it, how should they be evaluated, and how should standards of compensation be established with respect to these evaluations, individual competencies, and the income available for distribution via the payroll? These are the basic questions in payroll administration. It is largely a problem of determining standards for ourselves instead of attempting to follow others. We must accordingly develop a plan of payroll distribution for ourselves, and payroll administration is the development and application of such a plan.

A good many pertinent facts and principles are now established which can be applied profitably in the work if they are known. Until fifteen years ago no scientific principle for job evaluation had been advanced. In my own work I applied the principle according to which human work in an organization in being specialized and divided among individuals is consigned to different levels or degrees of scope, a common basis of distinction marking differences in responsibility and achievement. From time to time since 1922 I have written articles on payroll administration setting forth this basis of evaluation and presented papers at various management conferences. The requests for them, the consultations which they have brought about, and the contributions of others in the field have shown a widespread and growing interest in the work. In fact, during the last few years it has become a subject of first importance in programs of business and industrial management. It therefore seems desirable to assemble my material and develop it as a working manual. The practice outlined pertains to the problem in general, not as carried on in any particular company but as it may be followed in any company by adaptation to its particular conditions.

I am indebted to my associates in the Philadelphia Electric Company for their cooperation in developing material which has been used. Dr. M. S. Viteles, Director of Personnel Re-

search and Training, has given valuable criticisms and material and I have made use of his book "Industrial Psychology." Mr. George L. Harvey, Jr., Assistant Director of Employment, constructed some of the forms and figures. Others have participated in developing procedures.

J. O. HOPWOOD

Philadelphia, Pa.

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# CONTENTS

## CHAPTER 1

	PAGE
INTRODUCTION . . . . .	3
The Small vs. The Large Company	
Income Distribution	

## CHAPTER 2

PAYROLL ADMINISTRATION AND LABOR RELATIONS . . . . .	9
Aspects of Labor	
Fair-mindedness	
Analytical Treatment	
The "Going-Rate" Obsolete	
Equitable Rates	
Philosophy of Labor Relations	
Balanced Distribution	
General Policy	
Collaboration	
Bargaining	
Immediate Consequences	

## CHAPTER 3

ORGANIZATION RELATIONS AND JOB ANALYSIS . . . . .	28
The Job	
Analytical Survey	
Organization Charting	
Job Analysis and Job Specification	

## CHAPTER 4

JOB EVALUATION . . . . .	57
Scope of Activity	
Gradation of Activity	
Scale of Grades	
Phases of Activity	
Terms in Progressive Sequence	
Abilities in Human Nature	
Specialization and Integration	
Classes of Functions	
Evaluating the Jobs	

## CONTENTS

## CHAPTER 5

PAGE

COORDINATION OF COMPENSATION STANDARDS . . . . .	73
--	----

Rate Ranges  
 Minimum Rates  
 Maximum Rates  
 Incentive Rates  
 The General Level  
 Profit Sharing  
 Cost of Living  
 Length of Service  
 Time Limits  
 Hours of Work  
 The Job's Worth

## CHAPTER 6

JOB CLASSIFICATION . . . . .	84
------------------------------	----

Functional and Graded Classifications  
 Auditing and Finance Class  
 Clerical Class  
 Designer and Estimator Class  
 Mechanical Class

## CHAPTER 7

ADMINISTRATIVE PROCEDURES AND RECORDS . . . . .	92
---	----

Centralization vs Decentralization  
 The Enabling Order  
 The Payroll Budget  
 Transfers and Promotions  
 Problems of Procedure  
 Personal Prestige  
 Executives' Salaries  
 Abstract Worth  
 Differences Among Organizations  
 False Designation  
 Remote Control  
 Where to Begin  
 Inconsistencies

INDEX . . . . .	121
-----------------	-----



## ILLUSTRATIONS

FIGURE	PAGE
1. Diagram of Income Distribution . . . . .	6
2. Explanatory Letter . . . . .	29
3. Typical Form of Chart of Organization . . . . .	30
4. Detailed Organization Chart of an Engineering Department . . . . .	31-33
5. Position Record . . . . .	37
6. Descriptive Outline of Gradation of Work in an Organization . . . . .	59
7. Grade Checking and Job Evaluation Chart . . . . .	67
8. Comparison of Job Requirements . . . . .	68
9. Chart of Service Grades and Rate Changes . . . . .	75
10. Employee Service Record Blank . . . . .	96
11. Performance Rating Scale . . . . .	100-101
12. Station Personnel Performance Report . . . . .	102-103
13. Graphic Rating Scale for Office Supervisory Employees . . . . .	104
14. Payroll Review Chart . . . . .	105
15. Employee Budget Estimate . . . . .	108
16. Payroll Budget Control . . . . .	109
17. Detail Sheet of Payroll Budget Control . . . . .	110
18. Employment Division Sorting Machine Card . . . . .	112
19. Employment Division Data Sheet . . . . .	113

### JOB SPECIFICATIONS

Job Analysis . . . . .	41
Senior Accountant . . . . .	48
Assistant Clerk . . . . .	50
Boiler Engineer . . . . .	52
Electrician . . . . .	54
Electrical Mechanic—Generating Stations . . . . .	55

**SALARIES, WAGES  
AND LABOR RELATIONS**

# CHAPTER 1

## INTRODUCTION

During a strike of longshoremen in New York City many years ago a congressional investigation of conditions was held in Washington. During the proceedings a prominent financier was asked the question, "Do you think ten dollars a week enough for a longshoreman?" His answer was, "I guess it's enough if he'll take it." Is the PRICE he will take the measure of value of a man's work and the basis of the industrial structure in a free society?

In his "Wealth of Nations," Adam Smith, at the threshold of the industrial revolution in 1776, shows that exchange gives rise to division of labor and that the extent of the market limits the extent of the division of labor. This was when the industrial revolution—the machine age—began and the principle still holds good but the industrial revolution brought us to and across the threshold of INDUSTRIAL ORGANIZATION. Some individuals still do sell their labor from day to day in the open market but most people have places in enterprises whose interests require their continuance in service and their growth and development in it. They are then essentially out of the open market.

This situation affords opportunity to meet best the interests of all concerned—the investors, the workers, and the community at large. It is a situation in which managers are concerned not only in the mechanics of production and doing business. They have responsibilities much larger in organizing and directing large numbers of people of a community for service to the community and satisfaction to themselves with satisfactory profits to the investors as well. This is true whether

it be in producing food, clothing, steel, transportation, power and light, entertainment, or whatnot. To ignore any one of these responsibilities would be disastrous to the enterprise.

In a free society industrial organization is a natural process. It begins without conscious direction on the basis of exchange. Individuals gravitate together in exchange of commodities and services because experience has revealed this as the way to intensify effort and as the course of least resistance. Conscious direction or management as we usually recognize it is not involved in the simplest unions of individuals.

Successful producers, however, find that extension of their work requires the aid of helpers and division of labor in an enterprise then begins under conscious direction. Here organization takes an upward step. Industry for a long time was made up of simple enterprises and during these early days the relationship of master and servant was firmly established by custom and written into law.

The world moves on by development in organization. This is true in industry as well as in every other phase of existence. It has produced the modern corporation. In the later years development has been so rapid that ideas of human labor relations have not kept pace with it. This is in spite of the fact that in practice most people do not change their jobs frequently in the open labor market but advance by internal adjustments and promotions. Conditions of employment are not what they once were and many troubles are because of old ideas and traditions which do not conform with modern organization relations.

The proprietor has become the company and when we speak of the company as a proprietorship we mean, of course, the stockholders. This is its entity, legally—the corporate organization, but when we speak of the work of the company or the size of the company we include its employees and when we consider its organization it is usually the employee organization which is thought of. The company, as a producing

organization is the body of people employed by the corporate organization.

The circumstances under which people work are so variable and complex as to challenge any philosophy of labor but a philosophy or a theory we must have and always do have, right or wrong, either as employers or employees. The idea of "theory" is distasteful to "practical" men but the practical man always has a theory whether he knows it or not. To work by a true theory or science is to be on the right track. Engineering is application of science to industry and it has been truly said that every art has a corresponding science—a basis of established and systematic knowledge. Activity which has no such basis of knowledge is promiscuous.

Most of our dealings with regard to labor have been promiscuous in character with results of the kind which could be expected of promiscuous dealing. We always have had a philosophy or a theory but usually without much science.

Science in human organization has been later in developing than in the field of mechanisms. In recent years, however, many scientific facts and principles of human nature and organization have been established which can be applied in administrative work but they are not widely known. To know them means to have a better idea of industrial organization than the idea of just the boss, the man, the job and the labor market.

As the process of organization advances and is understood the price aspect of labor changes. The individual becomes a participant in the enterprise and compensation for labor has a greater significance in the distribution of income than just cost to investors. In the following diagram of income distribution the sector of the income dollar disbursed for labor cannot be reduced beyond judicious limits by expansion of the sector disbursed as profits without serious reactions affecting profits. A delicate balance must be maintained between these two sectors and the disbursements for labor must be apportioned according

as individuals take part in the work of the enterprise. If not, serious reactions on this account will occur.

✓ Promiscuous treatment is costly in a highly organized enterprise. The price he will take is not the true measure of value of a man's work and does not act alone as the basis of an indus-

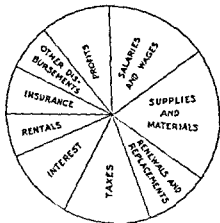


Figure 1 Diagram of Income Distribution

trial structure which is highly organized. In order to meet and maintain the requirements of a high degree of organization a plan of payroll distribution is necessary and it must be democratic. ✓

**The Small vs. The Large Company.**—Most people keep their personal accounts in their heads. The small business man often does the same thing to a surprising degree but it leads to a downfall if a business is attempting to reach considerable proportions. Likewise in the small plant, the boss knows all the men, all the equipment, all of the operations, the material, the finished stock, etc. Like the business man, he reaches his limit before the enterprise can attain larger proportions. When things get large, details are lost in a fog if they are not delegated as special responsibilities to somebody.

In an enterprise of several hundred persons, a manager can hardly know well all of the individuals—what they are doing and how they are being taken care of on the payroll. The office manager may be looking after the payroll with the help of the foremen; but how? It would be timely to take an inventory of the organization and learn the facts about the things the people in it are doing in the scheme of production and how they stand on the payroll with respect to it. Such an inventory is likely to show that a better order of affairs can be established. This is true of a small organization as well as a large one.

Are the names on the payroll properly identified with the work which the individuals are doing? Is there any means of preventing jobs of the same kind from being designated differently or of preventing like designations for jobs of different kinds? Are there any established standards of compensation to keep pay rates within proper bounds for the various grades of work—minimum as well as maximum? Are service records being kept for employees to show for each individual the complete and continuous history of his service and rates of compensation while employed in the company? These questions in just a casual review reveal something of the state of affairs.

Orderliness is not automatic. We cannot afford to take too many things for granted. In many organizations, various plans for employee conferences with their managers, including consideration of these questions, have been put into effect. Some are formal and some informal in character. However this may be, the necessity of a meeting of minds has brought about the movement. In the smaller organization it is usually taken for granted that managers and their men are so close that there is no necessity for any particular measures to be taken to bring them closer and put the house in order. An inventory of the organization even of casual character cannot fail to show many inconsistencies and shortcomings if no measures exist to provide against them.

In processing, even in "one-man" enterprises, the necessity of finding, understanding and using the most fruitful ways and means of doing things is fully realized by those who succeed. The same thing is soon realized with respect to accounting in a business which grows and likewise with respect to sales. As the payroll grows beyond meager proportions something more than the names and pay rates of the employees is needed. Segregations with respect to kinds of jobs, departments of work and accounts must be made. Thus we soon arrive at job classification in some form as a practical necessity.

With more growth, we begin to count the individuals by hundreds. The work becomes more complex. Several persons are now engaged in work which one person formerly did but not with equal responsibilities. Gradation takes place. The entire body of people in the enterprise is spread out into more space—more rooms, and then more buildings. The individuals have become separated and far apart.

As the progression goes on, has any one in the management taken to himself or been assigned the responsibility of knowing the organization from an over-all point of view—of making real distinctions among the people according to what they are actually doing instead of superficial ones; of reflecting these upon the payroll and of providing means by which the individuals will realize it and know what they want to know and should know about the problems and objectives of the company, the progress it is making and their individual relations with these things? This becomes a necessity.

In labor relations, therefore, just as in processing, accounting and sales, we soon reach a point in the progression beyond which it is necessary to find, understand and use the most fruitful ways and means of doing things if we are to be successful. In the smaller organization as well as in the larger one the individuals must discover by experience whether or not their best interests are integral with the enterprise and its destiny theirs.



## CHAPTER 2

### PAYROLL ADMINISTRATION AND LABOR RELATIONS

Payroll administration is the direction of distribution of income, in so far as it pertains to the payroll, according to a *plan*. Any real plan comprehends a system or orderly way of doing things. We can safely say that payroll administration represents a positive movement toward systematic treatment of the problem of payroll distribution which has been due for a long time. It is no panacea for the difficulties which arise in labor relations but it offers the means of getting on the right track to meet many of them and has large possibilities. As we are using the term here and according to any fair interpretation of its meaning, payroll administration is a procedure not for dealing with people as masses but for reaching the *individual* in the mass. Nor does it mean standardization of rates of pay. It means, rather, the development of *standards* according to which individuals should be paid.

**Aspects of Labor.**—There are various aspects of labor according to which the problem must be met because of the fundamental nature of labor. Labor is not furnished in mass. It is the work of individuals and the various aspects of its nature may be considered, comprehensively, as the *economic aspect*, the *human nature aspect*, and the *organization aspect*. According to the economic aspect alone, a man's labor is like a ton of coal but we cannot deal with it as we deal with a ton of coal. Like a ton of coal, it is measurable as to quantity and quality and it has a price; but labor is the work of human beings and we must deal with human beings according to their nature. Moreover,

most human beings work in enterprises—not in the community or in an industry at large but in separate organizations of production and we must deal with them as members of these organizations.

The complexity of labor problems is because of these various aspects which labor presents and our failure to fully observe them and reconcile them. It is as though we should fail to view an object fully from its different sides and fail to see how they articulate to form the whole. Its economic, human nature, and organization aspects can be reconciled. Each modifies the other in the composite whole and we cannot deal with labor fairly according to any one of its aspects without regard to the others. No attempt to do so has ever been successful.

According to its *economic aspect*, labor is impersonal. The individual works for the employer with different interests. They are two parties contending over a contract. The individual is external to the enterprise, paid to work for it but not in it and of it. Labor of every kind and level is assumed to have a market price in the community at large—a standard rate of pay for all workers in the same category of work, the same for all enterprises. We do not actually pay by such a standard rate, however. We cannot do so and we should not do so if we could because of the conditions which exist according to the aspects of labor other than the economic aspect.

According to the *human nature aspect* of labor, individuals desire all they can get for themselves for their labor but, reasonably, can expect to be paid according as they variously participate in doing the work of an enterprise. Also, they can reasonably expect to be paid according to the prosperity of the enterprise in which they work and this varies among enterprises. Thus, the condition of equity and justice or fair dealing presents itself—equal pay for equal work, equitable differences within the enterprise and a standard of compensation commensurate with the prosperity of the enterprise.

The *organization aspect* of labor strengthens and clarifies our concept of this condition. According to this aspect, the individual works as a member of a definite body of people who carry on the work of an enterprise for the production of something jointly, dividing the labor among themselves but integrated and cooperating together as a whole. An organization is a cooperative structure. It is just the opposite of division by economic classes such as "Management" and "Labor" and by social class or caste. According to this aspect of labor, every individual occupies a definite position or job in the scheme of the whole with which he must be identified. In the work of the whole his job has a status, relative scope or level, and equity requires that differentials in compensation should conform to the differentials between the levels of work in the organization as a whole. The organization aspect of labor thus exhibits oneness—people in positions or jobs in an integrated pattern, whether managers or routine workers. It shows gradation in authority and level of work but no cleavage into the two *opposing* groups of management and labor or employer and employee as shown by the economic aspect. All are workers and the payroll problem according to the aspect of organization is internal rather than external to the enterprise.

**Fair-mindedness.**—It is not fair to say that executives who admit the aspects of labor other than the economic into their calculations are just benevolent employers. One is not benevolent because he is fair-minded. Payroll administration is an expression of *fair-mindedness*. It has come into prominence as a means of reconciling the different aspects of labor and bringing order out of chaos with respect to salaries and wages. It is being realized more and more, in business enterprises, that a strong payroll position is an asset of first importance and that its acquisition is more than a matter of bargaining. It is true that the payroll as it is in any going concern represents agree-

ment in some measure between people employed and their managers but harmony in labor relations requires more than mere agreement or compromise. It presents a problem for thorough analytical treatment and resolution to terms which appeal to all rational minds.

**Analytical Treatment.**—If we have an engineering problem we assign it to engineers. If we have an accounting problem we assign it to accountants. So with the payroll problem; in dealing with it we are concerned with principles of economics, human nature, and organization and it cannot be left for treatment by people at random. It must be *thought through* in the light of scientific knowledge as is true of a problem in any other technical field. The problem then becomes less controversial and the labor contract less a matter of conscious concern than is the case when the treatment is promiscuous. When conditions are satisfactory in our work we hardly know that we have a contract. To be contract-conscious is to foster trouble in any human relation

Analytical treatment of the payroll problem is a process which prepares the way for *rational dealing* by eliminating muddled thinking and creating a situation which is simple and clear enough to be accepted by fair-minded persons. The individuals affected are not concerned with the details of analysis but with the results, which can be presented to them in language of their understanding, individually and collectively.

**The "Going-Rate" Obsolete.**—For a long time labor problems have been approached almost entirely from the economic aspect. It has been taken for granted that salaries and wages merely represent the price of *labor as a commodity* according to supply and demand. It was the teaching of the earlier economists and still is taught by many. The "going-rate" is a common synonym of "market rate." "What are you paying for labor?" is a common question and some companies make a prac-

tice of circularizing others with questionnaires asking for the rates being paid in lists of jobs in an endeavor to find the "going-rates." It may be worth while to know how our rates compare with the rates of other companies if such knowledge can be even approximately obtained but the most significant fact revealed in the reports of these investigations is the wide variation of rates being paid to individuals in jobs of the same name, sometimes as much as 75% or even 100%.

There are several good reasons for this situation. More than a decade ago, when we took up the problem in our own company, it was regarded as a simple undertaking to collect rates and make comparisons but a number of questions were soon raised. In attempting to answer us, how would others know the meaning of our job names? They were not definitely known among our own people and, if they were, how could they be clear to others? Moreover, would jobs in other organizations match up with ours and, if they did, should it be assumed that our rates should be the same?

Even for work which is more or less standard in character a wide range of rates is found among enterprises whether they are in the same community or not. It is not difficult to understand why this is true. Individuals in jobs today must be trained through a considerable period of time and thoroughly adapted to their work and the particular situations in the enterprises which employ them. It pays to keep them at their work with satisfaction to themselves and out of the labor market. As merited, their rates are advanced from time to time without force. Justice is compatible with good business. Few persons, therefore, can duplicate their salaries elsewhere when they find themselves out of jobs. All this means that, unconsciously, the human nature and organization aspects of labor have been modifying our practices as modern enterprises have been developing. We are getting away from anything like a real market rate which requires mobility or turnover among

employees for its existence and is concerned only with bargaining according to the economic aspect of labor.

**Equitable Rates.**—Accordingly, a different idea as to what salaries and wages should represent has lately come into prominence. It is that rates of compensation to individuals employed in an enterprise should be coordinated and that earnings, individually and collectively, should represent *equitable participation* in the distribution of income from production, rather than just the price which the individuals can get for their labor. This idea requires consideration of the organization relations of individuals in production by means of analysis and consideration of their different proficiencies and of the efficiency of the whole. Compliance with these considerations promotes stability. Payroll administration has arisen coincident with this idea of salaries and wages, consciously or unconsciously, as it is concerned essentially with planned distribution of the income of an enterprise including such considerations.

While the two ideas as to what salaries and wages should represent are very different, there is, naturally, confusion between them and much muddled thinking associated with them. The minimum compensation at which persons can be employed is a price which must be met according to the economic aspects of labor, affecting cost of production. Cost of production fixes prices of commodities and services at a level below which they cannot be sold without loss in an enterprise. If the minimum compensation at which persons can be employed is fixed so that it holds prices, through cost of production, too high for purchasing, the result is cessation of business, unemployment and loss to investors also. Both are losses to society. In an enterprise, elements in cost of production, however, are not rigid and unchangeable. They are distributed throughout the organization as a whole and savings in any activity, as well as in materials and equipment, equally affect cost. The effects of

improvements in methods and machines are well known in this respect, in both plant and office. Moreover, the earnings of individuals throughout the organization may be high and their efficiency such that cost per unit of product is low. Wages, therefore, have a price aspect but they are very different from prices of commodities.

Salaries and wages in an enterprise may be higher per individual than in a competing enterprise but unit cost of production may be lower. Industry has advanced by this state of affairs. It permits well-paid individuals to buy, supporting purchasing power in the community, and lowers the profitable price level which does the same thing. Thus business and employment are extended in continuous succession. Industrial extension and development requires these conditions as well as the possibility of investing capital and doing business with confidence in the stability of values. Creating employment is not a process of sharing work. It is in *extending enterprise* with a fair profit to investors and a fair SHARE to workers in the distribution of income rather than at the *price* of their labor.

Philosophy of Labor Relations.—With regard to any question we always have a *philosophy* which determines our attitude and course of action. Our philosophy of labor relations for a hundred and fifty years has remained static as compared with the mechanistic development of industry. We have been familiar with industry as carried on by proprietors ("masters") and their employees ("servants") for so long that we can hardly think of it as anything but people of one social-economic class working for those of another with different interests. We hear endless discussion about the "workers" as a class or "*species*" different from the rest of us and of "management" as a class of people—the employer class; all so different—*class against class*. Volumes of statistics about the classes, particularly the "workers," are incessant. The pattern of labor rela-

tions thus put forward is one of economic class division, conflict and bargaining and labor problems are discussed largely from the points of view of class-conscious groups. We call at large for management and labor to come together and bargain as different classes of people. We say, "Management feels this and labor feels that . . .," but management is activity and labor is activity. They do not feel anything. Individuals do the feeling and thinking and we are really concerned with the situation of *every individual* on the payroll as a *participant in the work of an enterprise and in its income*.

The N. R. A. in the United States demonstrated the fallacy of attempting to deal with either enterprises or individuals as classes. It was impossible to definitely identify the industry to which the enterprise belongs in large numbers of cases and frequently a single enterprise would be included under the codes of several industries. It was an excellent example of dealing with arbitrary classes of things in the abstract rather than with the things themselves in the concrete. The enterprise is an entity in industry and the individual is an entity in the enterprise but the industry is not a definite entity like the enterprise,—not an integrated body with one management but a collection of separate enterprises of a kind or general class. Individuals are really employed in enterprises, not in industries and not as classes. All sorts of variations in circumstances and conditions are to be found among enterprises and among the individuals within every enterprise and it is not feasible to deal abstractly with either enterprises or individuals.

If we are to put the labor relations of individuals in better order we must have less confusion of thought about them. We generalize too much and use such terms as labor and capital, management and worker, brain and brawn, employer and employee, cooperation and production in loose and obscure senses which will not bear analysis. We need to pass over from such vague abstractions of class philosophy to concrete realizations



of individual participation in accomplishment and its returns in every enterprise. Classifications for *real* distinctions must be based upon fundamental or *real* differences.

In nature we are born as *individuals* to live free and make our own way. In society it is still the individual who lives, not the group or the class, and freedom to work and possess or enjoy what he can make fairly in the environment he can find are still his native rights. They are native because they are largely indispensable to life itself. In society, government *for the people* protects these rights against unjust aggression such as class legislation which in all of its forms tends to curtail them unjustly. In the organization which constitutes an enterprise we are still individuals and management must function with respect to these same native rights—*each to share in distribution as in contribution to the work of the whole*. This principle is fundamental to the prosperity of the individual and the enterprise and, therefore, of society.

The age-old problem of mankind and our problem now is to *reconcile individualism and collectivism*—to preserve the free life of the individual in the life of the group. It is the problem of government in society and the problem of management in every enterprise in industry. The common fault is to lose sight of the individual in the mass. The tendency of the human mind in dealing with human problems is to consider people as social-economic classes and its tendency is to respond to this treatment with the feeling of *class-consciousness*. So it results in a general class philosophy and struggle of class against class in society and in industry. We deal with the abstract superficial class instead of the concrete real individual.

The pattern of labor relations according to the old philosophy is very different in character from the pattern of the *actual production relations of people in modern industry*. Production in society is not according to social or economic classes and not by people employed at large as a unity. Unity is not a character-

istic of the industrial world at large. Division of labor in society at large or the business world is not highly integrated, in a real sense. It is subject only to economic laws and limited regulation by government, trade associations, and a few other agencies but not to management. There is no common management in industry at large or in any particular industry, regardless of government or other regulation. In a real sense, it is beyond human comprehension. Neither are any activities in lower levels than management carried on in common throughout industry. Foresight is very limited and industry can proceed from year to year only with a great deal of *trial and error with individual incentive, initiative and risk in enterprise*. Production is accomplished by different enterprises. They are separate entities, each with its own management and activities in lower levels and upon its own resources—self-contained units of production, some in good condition and others not. Each is after its own plan and originates on its own initiative and at its own risk. In each we have a definite body of people all participating in a division of labor, specialized and integrated to work together as a whole. This is organization, the principle of which is essential to a true or natural philosophy of labor relations. The principle of organization and not the idea of compromise between classes of people must be the basis of stable and efficient labor relations in each enterprise, as is true of mechanistic relations in production.

Organization is a system of cooperation to do something together. It involves the specialization of work into jobs of different kinds and their integration or *unity* as a whole with one management. The incumbents throughout the system of the whole are interdependent in production, each participating according to the status of his job and his proficiency in it. The output is the yield of the concerted services of all, together with those of the capital employed. A going concern is a self-perpetuating institution of *service and employment* in the com-

munity—a *source of income to all of its participants* rather than a mere money-making establishment of investors of capital.

Every manager is constantly asking for cooperation but it is foolish to expect it without *corresponding satisfactions* to the individuals concerned. If the organization were a machine this might be realized but as its units are human beings it is unreasonable. Thus we have the human nature aspect of labor as a vital consideration involving the organization aspect. Participation in operations requires corresponding participation in the returns and its realization. Organization of human beings requires not only their correct placement for participation in operations but also provision for their *nurture* according to their participation—corresponding participation in the returns; that is, the principle of organization with regard to human beings comprehends the principle of equity. The individual must be nurtured according as he participates in the work of the whole. What is good for the whole must necessarily be good for the individual. The question is not "What are we doing for our employees?" but "Are we all participating in the returns according as we participate in the operations of the enterprise?"

In the final analysis, management is not a group of people apart from and employing others. It is activity in the higher levels of any of the classes of functions in the organization (see Table I). Labor, as we are using the term, likewise, is not a class of people different from others. It is human activity in the organization, all of it or any of it, and every individual who receives compensation through the payroll is an employee and a worker whether he is a manual worker, an office worker, a manager, or in any other category. All are *producers* because the organization produces commodities or services as a whole and each individual has a part in it. In every enterprise, the people who constitute the organization *participate as individuals*, not as classes. An individual who handles materials

or tools is a worker but no more so than one who uses a drawing board or works in the office. Mechanical operations, accounting operations, commercial operations, etc., *all deal with the product* but from different aspects. Economies in any of them *equally affect the cost of production* as a whole. In reality there are no unproductive workers unless they are unnecessary persons who should be eliminated and there is no difference between office and plant with respect to the principles involved in labor relations, nor between salaries and wages as compensation to individuals employed. The same principles relate to all individuals alike and the *same plan* of distribution of income through the payroll should apply to all.

In a well-organized enterprise, executives are *leaders*, not masters, and subordinates are *participants*, not servants. Every individual has a position with some responsibility in operations and in the custody of property. He is in the organization and of it, not just "help" working for it, and his realization of this position orients his whole attitude toward cooperation and accomplishment. A supervisor directs others but he is none the less an employee subordinate to superiors and, finally, to the property owners who only are the real employers. This is a new order in labor relations.

In his decision in the Weirton Steel case, February 27, 1935, Federal Judge John P. Nields expressed this idea of labor relations. He said, "Production in quantity and quality with consequent wages, salaries and dividends, depends upon a sympathetic cooperation of management (managers) and workmen. A relation acceptable and satisfactory to both workmen and management (managers) is an essential feature of the enterprise. It is said this relation involves the problem of the economic balance of power of labor against the power of capital. The theory of a balance of power, or of balancing opposing powers, is based upon the assumption of an inevitable and diversity of interest. This is the traditional old world theory.

TABLE I. TABLE OF CLASSIFICATION

(Titles, placements, and rate ranges are illustrative only)

Service Grades		Functional Classes							Rate Ranges	Minimum Intermediate Grades
		Accounting	Boiler Operating	Clerical Service	Designing	Gen'l Administration	Machine Construction	Selling	Monthly Rates	
I. Management: 1. General management	A					President			1600-2350	A
	B					Vice-President			1400-2000	A
	C								1250-1750	A
	D					General Manager			1125-1500	A
	E								1000-1325	A
	A	Controller							850-1175	B
	B								810-1075	B
	C								725-975	B
	D								650-875	B
	E	General Auditor							575-775	B
2. Departmental and associate management	F								510-700	B
	G				Mechan. Engineer			Sales Manager	450-625	B
	H								400-550	B
	I	Auditor				Executive Assistant	Plant Supt.		350-500	B
	J								315-450	B
	A	Senior Account.			Chief Designer		General Foreman	Jobbing Salesman	370-400	B
	B								350-370	B
	C	Accountant			Senior Designer		Shop Foreman		325-345	C+
	D			Chief Clerk A					290-295	C+
	4. Highly skilled or minor supervision	A	Junior Account.	Boiler Engineer	Chief Clerk B	Designer		Machinist 1st Class	Senior Salesman	280-295
B				Senior Clerk A					260-285	C+
C		Book-keeper	Asst. Eltr. Engineer	Senior Clerk B	Asst. Designer		Machinist 2nd Class	Salesman	240-280	C
D									225-255	C
5. Skilled service	A	Asst. Bookkeeper	Boiler Operator	Clerk A	Junior Designer		Bench Hand	Junior Salesman	210-255	C
	B				Senior Draftsman				95-145	C
6. Semi-skilled service	A		Stoker Operator	Clerk B	Draftsman		Machinist Helper		80-130	C-
	B		Head Ashman		Junior Draftsman		Special Laborer		70-115	C-
7. Slightly skilled service	A		Ashman	Asst. Clerk	Tracer		Laborer		60-100	D
	B								50-85	D
8. Primary service				Junior Clerk	Junior Tracer		Shop Boy		40-75	D-

It is not the 20th Century American theory of that relation as dependent upon mutual interest, understanding and good will."

If the concept of unity in organization as we see it in the organic world could be acquired in the treatment of social and industrial problems, conditions would be different. Unity in organization is a natural law. It cannot be nullified by man. It establishes *a place for the individual* in the general scheme without loss of identity and without net loss to him but, rather, *a gain in the fruits of his labor*.

The old philosophy never included this concept. It contends that the interests of the recipients of wages differ fundamentally from those of the recipients of profits in a business, according to the economic aspect of labor alone, and cannot be reconciled with them. It contends also that because prices are competitive wages must be entirely competitive. It comprehends the theory of labor as a commodity.

We cannot deny, of course, that *competition* for work to do exists among people and that it checks unreasonable demands by them. Among individuals who labor *independently* in competitive society returns are entirely competitive but when they are *cooperating* with others, producing and selling something jointly with the same management, they have a cooperative relationship. Then, it is the organized enterprise as a whole which is producing and selling in the competitive market, not its members individually. Our places, nevertheless, can be taken by others when we fail to function adequately in them. We are never free from competition in this respect. It is true of all life. But cooperation in a *going concern* entails security from displacement and equitable remuneration as long as we continue to function adequately. This is recognition of time and energy invested by the individual and recognition of the value to the organization of competency acquired in service.

In practice, the theory of labor as a commodity, in an organized enterprise, has not proved sound. It is, of course, a

different thing to receive profits than to receive wages and, with competitive prices, cost of production must be reduced to a minimum but, with good management, cost of production may be kept at a minimum with high wages rather than low wages. Under these conditions and in the sense of both being participants in the returns, the recipients of wages and the recipients of profits have a *common interest* and that is in promoting productive efficiency in operations and maximum returns to the business. Good wages may thus be associated with good profits.

It is now common knowledge that some enterprises are more efficient than others and pay better than others and that they can and sometimes do pay better wages because they associate good wages with good profits in this way.

Therefore, why should we not develop *our own standards* and pay the salaries and wages appropriate to our own individual and collective accomplishments, with or above any minimum that may be set for us, if it is not prohibitive. Participation in the returns from accomplishment is incentive to accomplishment. It is good business for the enterprise and for the other enterprises in the community as well because the individuals can buy their products.

Purchasing power in the community can be sustained only when this is general. Business institutions supply the wants of the community only when they employ the people and their savings adequately. The people and their investments must earn to enable them to buy. They must consume the greater part of what they produce, or industry and the community both will suffer. We know now that we would be more prosperous had this state of affairs been established before 1929. Then enormous capital surpluses were accumulated and dissipated into nothingness. Business *must sustain the community* by distributing its income equitably among the producers. It cannot be just a private affair for the benefit of a few. "Where wealth

accrues honorably, the people are always silent partners."—Andrew Carnegie.

**Balanced Distribution.**—Efficient and stable participation in the work of an enterprise by individuals requires their participation in a *well-balanced* distribution of income and their appreciation of it—well-balanced not only as between payroll disbursements and profits but also as between disbursements to individuals and labor performed. Payroll administration must bring about this state of affairs in an organization by establishing coordinated standards of compensation, recognition of individual proficiency and recognition of the efficiency of the whole. The individuals and not classes of people must be considered. The basis for this work is analytical rather than controversial and we have enough facts and common sense for a systematic treatment of the problem.

**General Policy.**—The new order in labor relations is the expression of rational philosophy as to the fundamental relations of individuals in an organization of production. It takes concrete form through a *general policy* or determined course of action in an enterprise instead of a *laissez-faire*, "do as you please" course of *promiscuous* dealing which is characteristic of the old order.

Policy rarely is formed by a single declaration, however. It is usually developed gradually as experience is acquired in doing things. Old practices are modified by taking up new and better ideas one after another until general attitudes and broad courses of action, which we know as policy, are recognized and established. Thus a policy for a new order in labor relations is generally brought about in an organization.

Payroll administration is the execution of such a policy in general management, in so far as the policy relates to the distribution of income through the payroll. It is a branch of personnel administration. Like general administration of any



other kind, it is centralized development and application of a plan comprehending measures necessary to the execution of policy. Any practice which can be called payroll administration must represent *a policy and a plan of distribution*. Anything else is promiscuous. Promiscuous dealing cannot be reconciled with a policy and plan of distribution. An equitable plan must comprehend analysis of the organization relations of the individuals employed and of their jobs, evaluation of the jobs, co-ordination of compensation standards, the rating of individuals, budgeting the amount for distribution, the development of procedures and regulations, conferences with employing officers regarding them, inspection, adjustment and transmission of certifications for the payroll, the keeping of adequate records of individuals employed and the compilation of statistical data. There is nothing mysterious about payroll administration. It offers no automatic devices for measuring either jobs or persons. It is concerned mainly with *point of view*. Its point of view entails fundamental concepts of economics, human nature, and organization. With the vision attained from its point of view, its techniques may be simple.

**Collaboration.**—In all of this work it is of utmost importance to obtain the *concurrence and collaboration* of departmental officers in the spirit of working with them rather than dictating to them. Moreover, unstinted dissemination of information to *all employees* as well as the encouragement of joint deliberations with them is most necessary to the eradication of industrial disputes. The more *conference* on the basis of rational discussion the better people can get along together. The plan presents facts established by analysis as a basis for *common understanding* and it is open to criticism.

**Bargaining.**—Distribution of income in any enterprise is a function *in its management*. With regard to the payroll, it comprehends bargaining by individuals in positions of authority

with subordinates. If bargaining means making agreements as to rates of pay for individuals or groups promiscuously or in isolation from the rest of the organization it is not concerned with any plan of distribution such as payroll administration represents. Bargaining in this sense cannot solve an analytical problem. If, however, bargaining, either individually or collectively, *means conference, collaboration and agreement on the basis of enlightenment, rational discussion and fair play*, it necessitates consideration of *every one* in the organization with respect to *all* of the others. This requires a plan of distribution and provisions for its application such as payroll administration represents. The making of analyses, plans, and budgets nevertheless are management functions. Representatives of subordinates may collaborate with managers in performing them, in so far as they are able to do so, and their recommendations should be seriously considered but making policies and plans and conducting administrative procedures are, in the end, management activities and pertain to persons in management positions. Only persons in authority can make decisions and sign checks.

In payroll administration we are concerned with *EQUITABLE* distribution of income. No group has a right to "the lion's share" through power over supply of either capital or labor sufficient to seize it. Investors and workers in an enterprise are *partners* in a real sense and payroll distribution to workers has a greater significance than mere *cost* to investors. Rational *dealing* is not benevolence on the part of managers or employers. It is good business. Prosperity is a process of *investment, work, production and distribution to producers*—not a grand scheme of taxation and acquisition of something for nothing.

**Immediate Consequences.**—Payroll administration comes closer to us than any other activity pertaining to labor relations. It affects us while we live and work, closer than insurance, for example, which acts only when we are disabled or deceased.

It is a movement towards systematic distribution of income, as far as the payroll is concerned, according to a policy in management to "play the game" equitably and honestly, not by force but by the rule of reason. It is not a question of salaries and wages at large, nor the trend of wages, nor of hours of work, nor of what others do but *what is the policy and plan* to pursue and *what are the standards* we should maintain in our own organization—*what are the rules of the game and how can we apply them in practice.*

## CHAPTER 3

### ORGANIZATION RELATIONS AND JOB ANALYSIS

The first consideration in developing a plan of payroll distribution is to ascertain how the individuals in the enterprise participate in the work of the organization as a whole. We must make an analytical survey to identify all of the jobs, determine their groupings into divisions and subdivisions of the organization and their interrelations and analyze the jobs themselves. It is not within our province here to consider various types of organization but merely to refer to general principles of organization and point to steps in analysis.

**The Job.**—The individuals are the units of the organization and their jobs are their activities as such. A job, therefore, consists of the activities of an individual in the division of labor of an organization. It is exactly that, no more and no less—a *functional unit* of organization. It comprehends direct duties and reactions necessary to the environment of the individual but does not comprehend the environment itself.

**Analytical Survey.**—In the survey we must ascertain the activities of each job, the qualifications for it, and its allocation in the system of the whole. The activities and the qualifications for the job are revealed by job analysis and job specification, and its allocation in the system of the whole is revealed by organization charting. We must therefore *go beyond job analysis* and consider the specialized jobs as units integrated or combined to form the greater unity, the organization system as a whole.

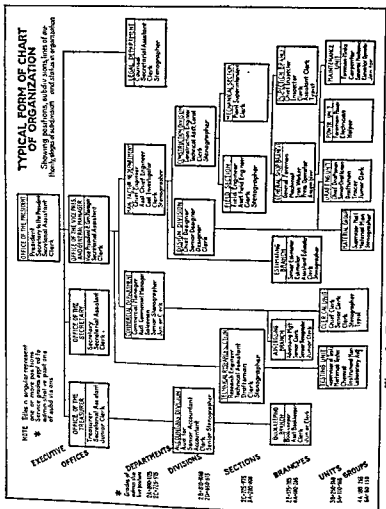
In undertaking the analytical survey, the *cooperation of all* persons concerned must be obtained. The nature and objects of the work should be fully and definitely set forth, by an-

nouncement and conference, with authority of the chief executive, to all administrative officers with the request that they give freely all information and assistance needed in connection with the work (see Figure 2).

Date.....	
FROM: The President	
TO: Employing Officers	
SUBJECT: Payroll Administration	
<p>In order to promote equitable payroll disbursements throughout the Company it is necessary to reach a common understanding with respect to the identities of the various classes of employment and establish a common basis for appraisal of them.</p> <p>A survey is being undertaken toward this end and as the first step in it, copies of the attached form are being distributed to all employees through their supervisors to collect data from each person about his job, as far as possible. If any of the persons in the lower positions are unable to do this themselves, you should make the statement for them in detail sufficient to give a complete account of the work which they do, and every person should be accounted for in making up the statements.</p> <p>Please follow this procedure with respect to the forms which are sent to you and return them by....(date)....to Mr..... who will have the work in charge.</p> <p>Your full cooperation in carrying out the work is necessary and all information and consideration requested by Mr..... should be given, not only with regard to the forms, but also with regard to questions of charting and of job specification and appraisal which will follow.</p> <p style="text-align: right;">(signed) ..... President</p>	

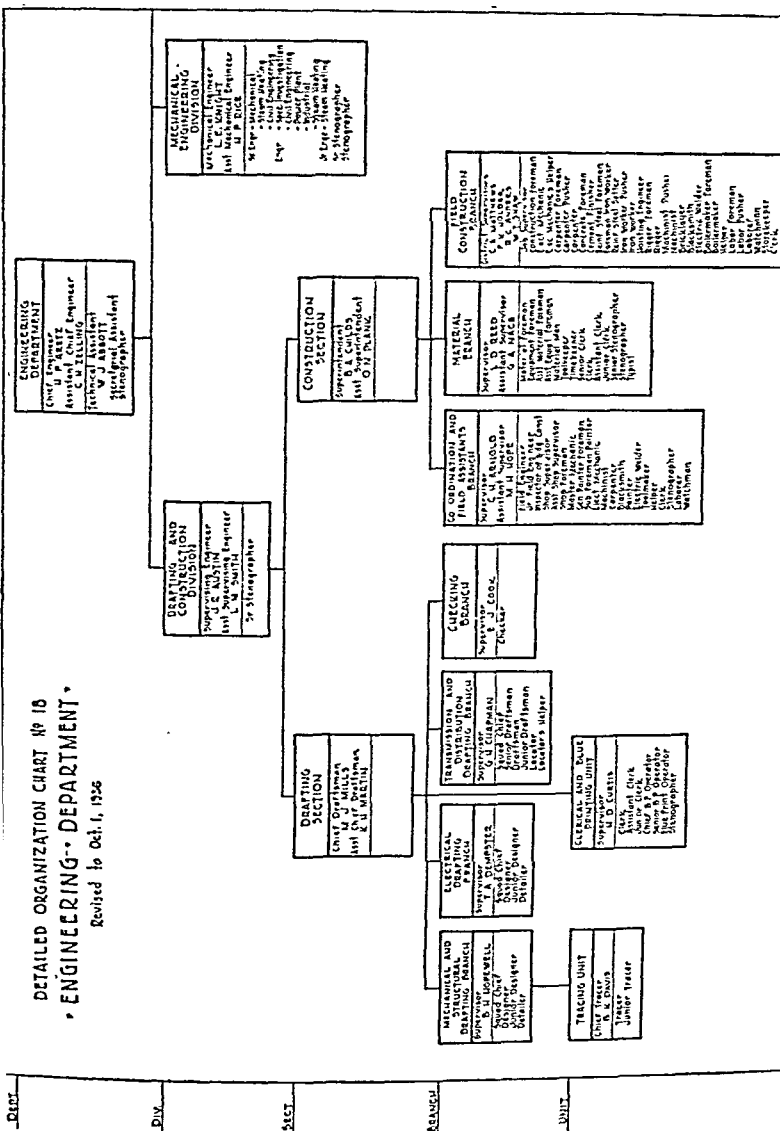
Figure 2. Explanatory Letter

**Organization Charting.**—In charting the organization, we ascertain and represent the major divisions of the organization and then, for each in turn, its subdivisions and the positions or jobs in each. The job of every person on the payroll must be represented on the chart if it is to be complete. Figure 3 is a



DETAILED ORGANIZATION CHART No 18  
ENGINEERING DEPARTMENT

Revised to Oct. 1, 1926



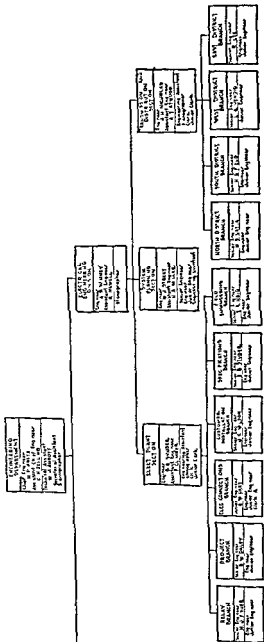


Figure 4 (Continued)



ENGINEERING DEPARTMENT	
Chief Engineer	H. H. WATKINS
Assistant Chief Engineer	C. M. FINE
Technical Assistant	W. J. ARBUTT
General Assistant	Photographer

SPECIAL INVESTIGATION AND TESTING DIVISION	
Engineer	J. H. BICKHAM
Assistant Engineer	A. W. ALLEN
Senior Photographer	Clerk

SPECIAL INVESTIGATION SECTION	
Engineer	DOUGLASS
Assistant Engineer	W. E. COLVIN
Engineering Assistant	Junior Clerk

TESTING SECTION	
Engineer	A. G. CASE
Assistant Engineer	A. J. JONES
Engineering Assistant	

GENERAL CLERICAL SECTION	
Supervisor	A. A. MACPHER
Assistant Supervisor	CLERK
Senior Clerk	Junior Clerk
Telephone Clerk	Photographer

STANDARDIZATION BRANCH	
Technical Supervisor	J. U. COPE
Senior Technical Asst	Junior Technical Asst

T & D LIGHTING BRANCH	
Technical Supervisor	J. U. DODD
Senior Technical Asst	Assistant Clerk

IND CO ORIENTATION BRANCH	
Technical Supervisor	J. U. DODD
Senior Technical Asst	Junior Technical Asst

CABLE SPEC INQUIRY BRANCH	
Technical Supervisor	A. E. ARSON
Senior Technical Asst	Junior Technical Asst

TECHNICAL BRANCH	
Supervisor	H. J. JAYES
Senior Technical Asst	Junior Technical Asst

MATERIALS BRANCH	
Supervisor	J. H. JONES
Assistant Supervisor	Special Tester

COSTS PREMISES BRANCH	
Supervisor	A. J. JONES
Assistant Supervisor	Special Tester
Senior Technical Asst	Junior Technical Asst

STANDARD BRANCH	
Supervisor	A. J. JONES
Assistant Supervisor	Senior Technical Asst
Junior Technical Asst	Instrument Man

STANDARD BRANCH	
Supervisor	A. J. JONES
Assistant Supervisor	Senior Technical Asst
Junior Technical Asst	Instrument Man

PHOTO AND SUPPLIES UNIT	
Supervisor	A. J. JONES
Photographer	Clerk
Senior Photographer	Junior Photographer
Assistant Tester	Instrument Man

CLERICAL UNIT	
Supervisor	M. E. SIEGEL
Senior Clerk	Junior Clerk
Senior Photographer	Junior Photographer
Junior Clerk	

FILM UNIT	
Supervisor	A. J. JONES
Senior Clerk	Clerk

GENERAL CLERICAL SECTION	
Supervisor	A. A. MACPHER
Assistant Supervisor	CLERK
Senior Clerk	Junior Clerk
Telephone Clerk	Photographer

Figure 4. (Continued)

A *gradation* among the administrative positions is revealed by the analysis of the organization into its successive stages of subdivision designated as departments, divisions, sections, branches, units, and groups. The administrative position at the head of each subdivision is brought definitely within the bounds of a small number of grades, as indicated by the grade designations at the left of the chart.

It will be noted, in examining the chart, that certain subdivisions rank more than one stage below the subdivisions to which they are directly subordinate, according to the grades of their administrative positions. That is, the administrative heads of sections, branches, units, or groups may report directly to the managers in charge of their respective departments or to the higher executives but this fact does not affect the grading of their positions or the ranking of their subdivisions. It is the *relative scope* of activities in the division of labor of the whole which determines these ratings and unless due consideration is given to these differences in developing the organization chart, the organization will not be shown in its *true perspective*.

For an organization of considerable size, it is necessary to draw a number of charts, one for the executive offices and one or more for each department. It is convenient to make them up as blue prints or white prints, 11 inches high and variable in width, folding to 8½ inches, in order that they may be filed in letter-sized folders or bound in covers. Figure 4 is an illustration of an actual departmental chart made up in this manner but the names are fictitious.

**Job Analysis and Job Specification.**—The development of job specifications is the next phase in the analytical survey, although both organization charting and writing job specifications may be carried on at the same time. Each person's position in the organization is known by a name or title, and the character and scope of his activities are revealed by job analysis

and job specification. The job specification is the vehicle for stating these things in writing as a definition and background necessary in fully identifying positions or jobs, considering their requirements and making fair comparisons and judgments of them.

In developing job specifications, we ascertain, from all sources of information, the duties and other requirements of each person's position and write a statement to *characterize* each position in its organization relations. Every position or job requires of its incumbent expression of some kind which, in turn, depends upon certain innate abilities, training, and experience.

The job includes activities of both *impression* and *expression*, and the job specification characterizes these activities and the necessary qualifications for them, in writing. Persons doing work essentially of the same character will, therefore, be designated by the same job title throughout the organization and comprehended by the same job specification.

For collecting information about each person's work, it is well to issue a blank form to each individual member of the organization through his immediate supervisor or employing officer and have the individual make a written statement to the best of his ability according to questions and directions printed upon the form, which we may call the "Position Record" form (Figure 5).

Some individuals, of course, are unable to do this for themselves and, in such cases, their supervisors may do it for them. In any case, the supervisor should review the statements and make additions and corrections when necessary. When a number of persons occupy positions of the same kind and each makes a statement, the statements will be variable and furnish a wide range of data from which to make up a characteristic job specification. This is a good reason for having each person make a statement when possible.

From the information collected upon the Position Record forms and from personal interviews, observations of the jobs, and the general experience of the examiners, the specifications are written and the organization charts developed. Job specifications may be more or less in detail as desired. They should set forth the direct duties and other requirements fully but should not be so elaborate that superficial changes in duties make their revision necessary. This would make their maintenance impracticable.

In developing both organization charts and job specifications, departmental representatives should collaborate with those in charge of the work in order to facilitate the work and promote a common interest in it. The charts and specifications after being drawn tentatively should be submitted for review to the various administrative officers concerned so that finally they will be fully acceptable.

Job specifications should be construed as inclusive of such activities as the individual *can be expected* to comprehend in his particular situation, but not as restrictive of individual initiative and development. The individual should grow in his job and, as he grows in it, his rate should be advanced. If he grows beyond it he should be reclassified and re-rated. This may be only what is commonly done in practice without specifications as, for example, when we advance a Junior Clerk to Assistant Clerk or a Wireman's Helper to Wireman, etc., but written specifications are means to the refinement of practice.

Generally, a job specification is *specific* with respect to an organization and would not be usable without change for a similar job in another organization. Some jobs, like the bolts and screws of machines, are more or less standard, but others, like the pistons, cylinders, and other major parts, are not interchangeable between different organizations. Moreover, a progressive enterprise *is not static* and, as changes take place, both organization charts and job specifications must be revised.

## POSITION RECORD

(Information to be used in developing "Job Specification")

To be filled in by employee and revised by his immediate supervisor.

Name .....

Title of Position.....

Department..... Subdivision .....

Statement of duties—What are the duties and responsibilities of the position, that is, what are the items of work from day to day and throughout the year, the normal standards of production and the scope of authority? State any working conditions which are peculiar to the position. Use the opposite side of this sheet, if necessary.

---

To be filled in by the immediate supervisor.

Qualifications—What are the qualifications for the satisfactory performance of the duties of this position?

Common School..... High School..... College .....

Technical or Commercial Courses.....

Knowledge of Special Subjects.....

Practical Experience.....

License..... Bond.....

Other Qualifications.....

Is the title given by the employee correct? If not, what is the correct title? .....

In what building, plant or other location does the employee report for work? .....

Signature of immediate supervisor.....

Date.....

Figure 5. Position Record

There can be no such thing, therefore, as a real standardization of jobs among different organizations, nor a standardization of salaries and wages among them, for the same reason, as well as for the reasons already stated.

Job specifications, in giving a clear picture of the duties and other requirements of each position or job, are necessary not only in making job evaluations for salary and wage ratings but also in interviewing applicants for employment and in developing tests and training programs. For salary and wage rating, our chief concern is the place of the *job as a whole* in relation to the other jobs in the system of the whole. The emphasis for this purpose is not on the details of the job but upon the pattern of the entire activity which the job represents in relation to the other job activities with which it is integrated in the organization as a whole. The combined pattern of activities which the job represents in the organic whole rather than any assumed specific values of particular skills and conditions of work is our chief concern in appraising the status of the job in the organization. Our conceptions of job wholes are like those of word wholes in reading; they are not by the elements which make up the whole but by the various observable aspects of the whole. For testing and training purposes, however, we are chiefly concerned with particular skills and other details of the job, regardless of its relations with other jobs in the organization. In the former instance, we are concerned with the jobs as *combined with other jobs*, but in the latter we are concerned with the *isolated job*.

Job specifications, therefore, are composed differently for these different purposes. In our present study, which is concerned chiefly with the problem of evaluations for salary and wage ratings, we are interested in the *general descriptive* form of job specification in order to obtain an over-all picture of the job for identification and comparison with other jobs in the system of the whole. Other forms of job specifications emphasize details of isolated jobs for the consideration of particular

details in developing tests, examining individuals, and developing training programs. These are not adapted to our purposes here. In the descriptive form of job specification we must, of course, consider details of the job, but from the point of view of the *general scope* or comprehensiveness of the job rather than from the point of view of evaluating particular details of the isolated job.

In writing specifications, it is important to follow a definite plan of job analysis which provides for the content, uniformity, and development of statements in such a way that the various requirements of the job will be distinctly set forth in outline form. For this purpose, the following outline of analysis is given and following this are several typical job specifications written accordingly.

In job analysis, it is important to keep in mind the fact that a job in itself consists of the activities which are performed by the individual in the job, and that these activities should not be confused with working conditions or environment, such as hazard, weather, heat, dirt, etc. Such things should be taken into account only with regard to the responses required to meet them or avoid them. They require the selection of persons who can successfully cope with them, but only as they require special alertness to avoid adverse consequences do they affect the status or grade of a job and therefore its range of wage rates.

In the outline of analysis which follows, some of the statements relate to the scope and status of the job in the organization, others relate to specific physical or mental qualifications for the job, and some relate to both scope and specific qualifications.

Job specifications written accordingly should, therefore, present a general outline of the requirements of each job necessary, in conjunction with the organization charts, in making comparisons with other jobs in evaluating the jobs and in judging the types of persons required for the jobs. For developing tests,

additional psychological analyses of particular requirements are necessary.<sup>1</sup>

The items in job analysis and job specification with which we are concerned in payroll administration pertain to:

1. The *activities* which constitute the job, both technical and non-technical (specific and general) and
2. The *qualifications* for the job, including: knowledge and experience, both technical and non-technical, and Abilities—general ability and special abilities pertaining to the job activities and the adaptation of the individual to his environment in the job.

Extraneous conditions such as scarcity of workers in the community have no bearing on job analysis.

Organization in everything presents the aspects of : structure, function, specialization, integration, and development. These are not parts of the whole which can be separated but *different views* of the one thing from different angles of observation. Each view contributes something to our knowledge, not to be found in the others.

In a human enterprise, the individuals constitute the structure, their jobs constitute the functions or operations; the individuals are specialized for the work which they do and it is inseparable from them; they are integrated to form the various subdivisions, departments, and the organization as a whole; and the organization develops by the admission of individuals and the extension of functions. In the analytical survey and subsequent procedures we are concerned with all of these aspects of organization.

<sup>1</sup>For a comprehensive treatment of job analysis, factors in vocational selection and psychological tests for selection purposes, see M. S. Viteles, *Industrial Psychology*, W. W. Norton & Co., Inc., 1932. The terms, "General Ability," "Special Ability," "Temperament and Character," are used in this manual as defined in that work.



## JOB SPECIFICATION

CLASS \_\_\_\_\_ SHEET 1 OF 7

## JOB ANALYSIS

Outline for Collecting Data and Writing Job Specifications.<sup>1</sup>TECHNICAL REQUIREMENTS.<sup>2</sup>

Requirements of a specific character which distinguish the work from other work.

Direct Duties.

What are the direct duties and responsibilities—what does the person do in the job from day to day; what are the items of work, normal standards of production, etc.? What is its scope of authority or control in the organization?

Note: Some of the points listed below under numbers C-10 to C-36 may be included here, especially concerning executive, staff and supervisory positions.

Technical Knowledge and Experience.

What technical knowledge is necessary—knowledge specifically applied in particular items of work? What kind and how much previous technical school training and experience in practical work are necessary?

NON-TECHNICAL REQUIREMENTS.<sup>3</sup>

Requirements of a broad character which may pertain not only to the particular work of the position but to other work also.

General Knowledge and Experience.Code

- A-1. Ability to speak English.
- A-2. Common school education desirable.
- A-3. Common school education.

1. In writing specifications, items in this outline listed under coded designations should be selected and written into the specifications as they apply to the respective jobs; or, the code designations, in some instances, may be entered for reference to the items of the outline in order to save space and time in typing. Employing officers sometimes favor this practice but it is not satisfactory for making specifications which are to be read.
2. Even in primary grades of labor men acquire definite ways of doing things and some measure of skill in them. For example, we recognize more than one grade of laborer and may have "Laborers" and "Special Laborers."
3. The list is intended to be representative rather than exhaustive.

## JOB SPECIFICATION

CLASS \_\_\_\_\_ SHEET 2 OF 7

NON-TECHNICAL REQUIREMENTSGeneral Knowledge and Experience (Concluded)

- A-4. Common school education and ability to read simple sketches or diagrams.
- A-5. High school education—one or more years.
- A-6. High school education, or the equivalent.
- A-7. High school education with manual training.
- A-8. High school education with commercial training.
- A-9. Academic education of college grade—one or more years.
- A-10. General or varied occupational experience—one or more years

Physical Qualifications.Code

- B-1. Normal health, physique and use of senses as indicated by passing the physical examination given by a Company Physician
- B-2. Strength adequate for arduous labor.
- B-3. Strength and endurance under physical stress as circumstances may require  
The qualification of good health is necessary in all jobs, but there are jobs in which persons with certain physical impairments can function. Some jobs require more physical strength and endurance under stress than others but these things go with the "day's work" and they are no measure of the job's scope and control or influence in production. All such physical requirements relate essentially to the selection of individuals rather than to the status of the job.

Personal Qualifications and Other Requirements.Code

- C-1. Ability to observe, learn by experience, and follow directions in work of very simple character
- C-2. Ability to observe, learn by experience, and follow directions in work of considerable complexity.

## JOB SPECIFICATION

CLASS \_\_\_\_\_ SHEET 3 OF 7

NON-TECHNICAL REQUIREMENTS.Personal Qualifications and Other Requirements (Continued)

- C-3. Ability to observe, learn by experience, and follow directions in work highly complex in character.
- C-4. Application of elementary principles.
- C-5. Application of advanced principles.
- C-6. Application of complex principles.
- C-7. Ability to develop and plan new work of limited scope.
- C-8. Ability to develop and plan new work of wide scope.
- C-9. Ability to develop and plan new work of very wide scope.

The degree of general ability, commonly called general intelligence, which a job requires, relates directly to its scope and control or influence in production. We cannot rate jobs by degrees of general ability accurately but we know that persons of very low general ability can perform some very simple activities satisfactorily; persons of low average intelligence can perform satisfactorily in many occupations of primary and semi-skilled grades; persons of average intelligence can qualify in higher grades of jobs and so on upwards. General ability relates to grade or scope but not to kinds of functions, and tests for general intelligence (general ability), therefore, may indicate the general level or grade but not the kind of work which a person can do successfully. Tests for the SPECIAL ABILITIES required should be given for this purpose. (See Industrial Psychology, M. S. Viteles.)

In the job specification, therefore, we can indicate degrees of general ability only roughly in noting requirements with respect to observation, learning, application of principles and the development and planning of new work.

Note: If not evident or directly expressed by the statements under "Direct Duties," consider the following points:

- C-10. Maintenance of standards established in practice with close supervision.
- C-11. Maintenance of standards established in practice with occasional supervision.

Differences in these regards indicate differences in job scope

## JOB SPECIFICATION

CLASS \_\_\_\_\_ SHEET 4 OF 7

NON-TECHNICAL REQUIREMENTS.Personal Qualifications and Other Requirements (Continued)

and differences in special abilities or in temperament and character required. The maintenance of standards without close supervision involves the exercise of more observation and learning and qualities of dependability and trustworthiness than work which is subject to constant detailed direction.

C-12 Application to a fixed routine.

C-13 Application to a varied routine.

C-14 Exercise of initiative and resourcefulness in scheduling and dispatching items of work.

C-15 Exercise of initiative and resourcefulness in developing standards.

C-16 Exercise of initiative and resourcefulness in making constructive recommendations.

These distinctions have an obvious bearing upon the scope of the job. The exercise of initiative and resourcefulness in scheduling and dispatching items of work, the developing of standards and the making of constructive recommendations constitute work of a much higher order than a varied or a fixed routine.

C-17 Exercise of alertness in observing hazards and avoiding accidents.

Exposure to accident and health hazards requires alertness to avoid these hazards which enlarges the scope of activities beyond what they would be without hazards. To this extent, therefore, hazards in a job have some bearing upon scope and relative value, but not as compensation for accidents which is a consideration pertaining to employee's compensation and insurance.

C-18 Adaptation to activity in solitary situations.

C-19 Association with other workers for harmonious relations.

These features relate entirely to requirements of temperament and character of the worker. A person who is non-social, quarrelsome, or disagreeable is not suited to work requiring close contacts among individuals.

C-20 Association with tact, poise, and good address.

This requirement in itself does not materially affect the grade of a job. It is necessary for all persons who must

## JOB SPECIFICATION

CLASS \_\_\_\_\_ SHEET 5 OF 7

NON-TECHNICAL REQUIREMENTS.Personal Qualifications and Other Requirements (Continued)

maintain good relations with customers, the public, and representatives of the various departments of the organization. It may be necessary for an office boy or a doorman as well as for a secretary, a salesman or an executive.

- C-21. Presentation or demonstration of facts in a manner to obtain and sustain interest.

This requirement pertains to the specific abilities peculiar to sales and instruction jobs without regard to grade.

- C-22. Exercise of absolute dependability, honesty, and truthfulness in the custody of money, property or confidential information.

This qualification of dependability, honesty and truthfulness is necessary for a watchman, a messenger, or a cashier as well as for most other jobs, high or low, and it has nothing to do with the status of a job.

- C-23. Special application of cleanliness and neatness of person and dress.

- C-24. Special application of cleanliness, neatness, and orderliness in work.

This qualification of cleanliness, orderliness and neatness is necessary for the position of nurse, draftsman, stenographer and many other positions but not so much for the rougher kinds of mechanical jobs as for the jobs just mentioned, and these requirements have nothing to do with the status of a job.

- C-25. Application of natural interest or special talent in the field of.....?

- C-26. Adaptation to special hours of work-shift, night, or irregular .....?

- C-27. Adaptation to special conditions or surroundings such as—motion and activity, quiet and stillness, noise, dust, odors, heat, cold, moisture, high humidity, air pressure, outdoors, indoors, sameness, shifting scenes, etc.....?

These are working conditions of jobs of various types to which the individual must be adaptable and must be selected accordingly, but they have no bearing upon job

NON-TECHNICAL REQUIREMENTS.Personal Qualifications and Other Requirements (Continued)

status or rate of pay. These conditions relate to the temperamental characteristics of persons. Some individuals do not react unfavorably to dirty surroundings and many slightly skilled jobs are of this nature. Some individuals are adaptable to monotony, and the same is true of other working conditions.

C-28. Application of practical first aid methods, including prone pressure resuscitation.

C-29. Application of the prone pressure method of resuscitation.  
(Supervisory Requirements)

C-30. Self-reliance, sincerity and energy, and the expression of these qualities in such a way as to inspire the respect, trust and confidence of others and obtain their consistent application to work for maximum efficiency.

C-31. Judging human temperament, correctly gauging the abilities of subordinates and assigning to them duties accordingly.

C-32. Promptly making and holding to decisions with fairness

C-33. Giving instruction, gauging its effects and adapting it accordingly.

C-34. Making investigations and reports on activities and operations

Supervision requires all of these activities in some measure in higher as well as in lower positions. They are activities in addition to the technical activities of any supervisory job which in themselves do not indicate any particular ranking of a supervisory position in the organization, except as above the positions of subordinates, whether they be watchmen, laborers, chauffeurs, clerks, or engineers.

It is, therefore, a fallacy to rate jobs as of a high order merely because they are supervisory. Many positions which have no supervisory activities at all have a wider scope of influence and control than many or all supervisory positions, for example—designing engineers, technical assistants and staff advisors to executives.

Supervisory activities, therefore, like many other requirements not chiefly in themselves of an intellectual nature, do not justify any particular ranking for a job. This de-

## JOB SPECIFICATION

CLASS \_\_\_\_\_ SHEET 7 OF 7

NON-TECHNICAL REQUIREMENTS.Personal Qualifications and Other Requirements (Concluded)

depends upon the job activities as a whole with reference to the other jobs in the organization.

(Executive Requirements—In addition to items C-30 to C-34 inclusive)

- C-35. Establishing new standards, originating, planning, organizing, and enforcing new courses of action.

Executive activities exceed the activities of supervision, in the establishing of new standards, in original planning and in organizing and enforcing new courses of action which place them in the higher levels of the organization. These are activities not called for in mere supervision to any considerable extent. The differences, of course, are relative.

(Staff Requirements)

- C-36. Search for discovery of facts, scientific, commercial, etc., systematizing and interpreting the meaning of disclosures; reporting results of research with recommendations—

Or, invention of means for operation with improvement in quality of product, greater economy, efficiency, etc.—

Or, composition of data to furnish information on events, current operations, financial status, devising propaganda, etc.

Staff activities are informational and advisory to the executives in the departments as well as in the general offices. These activities play a considerable part in the development of the policies and courses of action in the departments and in the organization as a whole. Staff positions, therefore, usually outrank most purely supervisory positions although their incumbents may have no direct authority over other workers.

## JOB SPECIFICATION

CLASS A-1 SHEET 1 OF 2SENIOR ACCOUNTANTTECHNICAL REQUIREMENTS.Direct Duties.

Under the direction of the Manager of the General Accounts Section of the Treasurer's Department, assists in the work pertaining to all auxiliary and general ledgers with the exception of the Work Order, Accounts Receivable, Consumers' and Accounts Payable Ledgers, which work includes

- 1 The preparation and maintenance of the auxiliary and general ledgers of the Company, with the above mentioned exceptions, together with the determination and maintenance of the accounting classification code
- 2 The preparation and maintenance of contract ledgers for the accounting for equipment bought on contract, and of records for follow-up data in regard to special billing and payment items and special accrued and advance payment accounts, such as taxes, rentals, retainers, etc
- 3 The monthly verification of all bank statements of the system.
- 4 Making a daily verification of all journal entries, the determination of the accounting classification code for them and the monthly verification of all journal entry numbers assigned
- 5 The preparation and maintenance of records of all insurance activities of the Company covering employees' compensation, public liability, automobile, fire, boiler or other insurance.
- 6 The preparation of the "Consolidated Daily Cash Balance," the preparation of routine financial reports such as the "Earnings and Income Statement" and the "Condition of Accounts" for the Board of Directors, the "Comparison of Revenue and Expenses," "Materials and Supplies" statement, and "Cash Statement" showing accumulated receipts and disbursements at the end of the month, for the Company officials, together with special financial reports concerning the system or equipment.
- 7 The preparation of data for inclusion in the "Certificate of Notification" for increase in capitalization, or other financial reports or data required by the Public Service Commission.
- 8 Assisting in instructing the General Bookkeeper in regard to his duties and in directing his work.



## JOB SPECIFICATION

CLASS A-1 SHEET 2 OF 2SENIOR ACCOUNTANTTECHNICAL REQUIREMENTS (Concluded)Technical Knowledge and Experience Required.

Thorough knowledge of bookkeeping and accounting practice and principles and should have had five or more years' practical experience either in connection with or in work closely allied to public utility accounting.

NON-TECHNICAL REQUIREMENTS.General Knowledge and Experience.

High school education or the equivalent.

Physical Qualifications.

Normal health, physique and use of senses as indicated by passing a physical examination given by a Company Physician.

Personal Qualifications and Other Requirements.

1. Ability to observe, learn by experience and follow directions in work highly complex in character.
2. Application of advanced principles.
3. Ability to develop and plan new work of wide scope.
4. Exercise of initiative and resourcefulness in scheduling and dispatching items of work, in developing standards and in making constructive recommendations.
5. Association with other workers for harmonious relations.
6. Exercise of absolute dependability, honesty and truthfulness in the custody of money, property or confidential information.
7. Self-reliance, sincerity and energy and the expression of these qualities in such a way as to inspire the respect, trust and confidence of others and obtain their consistent application to work for maximum efficiency.
8. Judging human temperament, correctly gauging the abilities of subordinates and assigning to them duties accordingly.
9. Promptly making and holding to decisions with fairness.
10. Giving instruction, gauging its effects and adapting it accordingly.
11. Making investigations and reports on activities and operations.

## JOB SPECIFICATION

CLASS B-1 SHEET 1 OF 2ASSISTANT CLERKTECHNICAL REQUIREMENTS.Direct Duties

Under supervision, performs work incidental to preparing, compiling, entering or verifying routine office information, reports, records and forms, or keeps the simpler forms of books not requiring knowledge of double entry; performs incidental typing when required

Examples of typical duties performed in various subdivisions are as follows

- Collecting data for, and keeping, important records.
- Locating and identifying previous correspondence.
- Making up and verifying orders for material.
- Entering receipts on stock record cards.
- Making up and verifying payrolls
- Checking and figuring bills and connected loads.
- Preparing new Meter Reader's sheets and filing in binders, placing trip numbers on new records or transfer notices, and entering missed readings after billing.
- Assisting in preparing, maintaining and filing new ledger sheets, meter index cards, addressograph records, etc.
- Pricing and coding material tickets.
- Making up and verifying miscellaneous tabulations, statistical data sheets, etc., including application of unit costs to property records, analysis of work orders, taking off labor and transportation from daily time sheets, summarizing material quantities and investment for reports, etc.
- Operating mimeograph and multigraph.
- Operating comptometer or calculating machines on routine or previously outlined calculations.
- Operating key punch machines and assisting on tabulating machines
- Operating bookkeeping machines
- Operating automatic addressograph machines
- Filing and keeping in custody important papers and records.
- Indexing letters and documents
- Enlarging or reducing plans or maps
- Entering data on records or cards, or registering or filing prints, drawings, maps and tracings
- Preparing simple progress or production charts.
- Collecting and arranging technical data
- Checking, listing and reporting material shipments, or deliveries
- Making up form and follow-up letters.
- Preparing transfer orders, meter removal orders, general orders, and fuse withdrawal orders and answering telephone calls.
- Keeping time for construction or other forces
- Issuing simple form orders
- Assisting in simple field duties on construction work.

## JOB SPECIFICATION

CLASS B-1 SHEET 2 OF 2

ASSISTANT CLERKTECHNICAL REQUIREMENTS.Direct Duties (Concluded)

- Collecting and compiling automobile operating data.
- Transcribing and computing meter records.
- Waiting on counter, selling and exchanging lamps, making up merchandise charges, receiving and handling cash from sales under supervision of Cashier.
- Sending out delinquent notices, preparing work for Collectors, posting and recording delinquencies, getting signatures to applications for service.
- Requesting permits and permissions for rights-of-way for aerial lines construction.
- Affiliating with other Company subdivisions as required.
- Collecting, distributing, stamping and sorting mail and following and placing mail matter in envelopes or preparing packages for mailing.
- Assisting, as directed, in work of a higher clerical nature.

NON-TECHNICAL REQUIREMENTS.General Knowledge and Experience.

High school education—one or more years.

Physical Qualifications.

Normal health, physique and use of senses as indicated by passing the physical examination given by a Company Physician.

Personal Qualifications and Other Requirements.

1. Ability to observe, learn by experience and follow directions in work of very simple character.
2. Maintenance of standards established in practice with occasional supervision.
3. Application to a varied routine.
4. Association with other workers for harmonious relations.
5. Special application of cleanliness, neatness and orderliness in work.

## JOB SPECIFICATION

CLASS D-1 SHEET 1 OF 2BOILER ENGINEERTECHNICAL REQUIREMENTS.Direct Duties

Under the direction of a Shift Superintendent or a Station Superintendent, exercises general supervision of the operation of the Boiler Plant in a Generating Station, the duties including:

- 1 Supervision of the operation of stoker-fired or hand-fired boilers under proper rating and economy, including their auxiliaries
- 2 Supervision of the procedure of putting boiler units on the line and taking them off, banking them, etc., under various conditions.
- 3 Supervision of the cleaning, maintenance and reconstruction of equipment
- 4 Supervision of the removal of ashes.
- 5 Routine inspection and testing of all apparatus.
- 6 Selecting and supervising the training of men for boiler plant work in cooperation with the Employment and Training Divisions
- 7 Assigning men to the various operating shifts.
- 8 Directing detailed procedure in cases of emergency.
- 9 Keeping routine records of the plant operation.

Technical Knowledge and Experience Required.

- 1 Knowledge of steam engineering acquired by technical training in an engineering school or correspondence school, and plant experience as an Assistant Boiler Engineer
- 2 Thorough knowledge of the boiler operating standard practice of the system and a general knowledge of the operations of the prime mover plant, the electric plant and of the generating station as a whole.

NON-TECHNICAL REQUIREMENTSGeneral Knowledge and Experience.

High school education—one or more years.

## JOB SPECIFICATION

CLASS D-1 SHEET 2 OF 2BOILER ENGINEERNON-TECHNICAL REQUIREMENTS (Concluded)Physical Qualifications.

Normal health, physique and use of senses as indicated by passing a physical examination given by a Company Physician.

Personal Qualifications and Other Requirements.

1. Ability to observe, learn by experience and follow directions in work highly complex in character.
2. Application of advanced principles.
3. Ability to develop and plan new work of limited scope.
4. Exercise of initiative and resourcefulness in scheduling and dispatching work and in making constructive recommendations.
5. Exercise of alertness in observing hazards and avoiding accidents.
6. Application of practical first aid methods including prone pressure resuscitation.
7. Self-reliance, sincerity and energy and the expression of these qualities in such a way as to inspire the respect, trust and confidence of others and obtain their consistent application to work for maximum efficiency.
8. Judging human temperament, correctly gauging the abilities of subordinates and assigning to them duties accordingly.
9. Promptly making and holding to decisions with fairness.
10. Giving instruction, gauging its effect and adapting it accordingly.
11. Making investigations and reports of activities and operations.

## JOB SPECIFICATION

CLASS D-3 SHEET 1 OF 1ELECTRICIANTECHNICAL REQUIREMENTS.Direct Duties

Under the immediate supervision of the Electrician Foreman in the Station Operating Maintenance Branch, repairs motors, lights, control system, oil switches, lightning arresters, relays, regulators, transformers, rotaries, motor-generator sets, and all other equipment connected with station electrical operation, including such operations as

- 1 Winding coils
- 2 Grinding commutators
- 3 Turning collector rings
- 4 Locating and clearing trouble.
- 5 Laying out and making other repairs.

Technical Knowledge and Experience Required.

- 1 Knowledge of the principles of electricity as acquired in a trade school
- 2 Sufficient knowledge of the operation of all apparatus to be able to make it safe for working
- 3 General knowledge of generating station operating.
- 4 Ability to read blue prints
- 5 Plant experience as an Electrician's Helper.
- 6 Thorough knowledge of the "Station Operating Rules"

NON-TECHNICAL REQUIREMENTS.General Knowledge and Experience

Common school education

Physical Qualifications.

Normal health, physique and use of senses as indicated by passing a physical examination given by a Company Physician.

Personal Qualifications and Other Requirements.

- 1 Ability to observe, learn by experience and follow directions in work of considerable complexity.
- 2 Application of elementary principles.
- 3 Maintenance of standards established in practice with occasional supervision
- 4 Application to a varied routine
- 5 Exercise of initiative and resourcefulness in scheduling and dispatching items of work
- 6 Exercise of alertness in observing hazards and avoiding accidents
- 7 Association with other workers for harmonious relations.
- 8 Application of prone pressure method of resuscitation

**JOB SPECIFICATION**CLASS D-3 SHEET 1 OF 2ELECTRICAL MECHANIC—GENERATING STATIONSTECHNICAL REQUIREMENTS.Direct Duties.

Under the immediate direction of a Chief Electrician in the Station Operating Division, inspects and repairs the electrical apparatus in a generating station. The duties include:

1. Inspecting and repairing the wiring installations of stations and buildings.
2. Making regular inspection of storage batteries (control and stand-by), and making recommendations for their improvement.
3. Giving equalizing charges to storage batteries.
4. Inspecting and repairing auxiliary motors, lightning arresters, etc.
5. Cleaning and keeping brushes of motors in order for good commutation.
6. Overhauling and adjusting oil switches.
7. Performing any other detailed operations relative to the maintenance and operating condition of complicated generating station equipment.
8. Relieving Switchboard Operators and the Chief Electrician when called upon.
9. Assisting the Chief Electrician in blocking apparatus.

Technical Knowledge and Experience Required.

1. Knowledge of the principles of electricity and of the construction and operation of generators, motors, switches, regulators, storage batteries, etc., as acquired in a trade school.
2. Plant experience as Electrical Mechanic's Helper, etc.
3. Knowledge of the Station Operating Handbook.

NON-TECHNICAL REQUIREMENTS.General Knowledge and Experience.

Common school education.

ELECTRICAL MECHANIC—GENERATING STATIONSNON-TECHNICAL REQUIREMENTS (Concluded)Physical Qualifications.

Normal health, physique and use of senses as indicated by passing the physical examination given by a Company Physician.

Personal Qualifications and Other Requirements.

- 1 Ability to observe learn by experience and follow directions in work of considerable complexity.
- 2 Application of elementary principles.
- 3 Maintenance of standards established in practice with occasional supervision
4. Application to a varied routine
- 5 Exercise of initiative and resourcefulness in scheduling and dispatching items of work.
- 6 Exercise of alertness in observing hazards and avoiding accidents.
7. Association with other workers for harmonious relations.
8. Application of prone pressure method of resuscitation.



## CHAPTER 4

### JOB EVALUATION

Individuals throughout the enterprise as a whole are interdependent in production. Each participates in the work as a whole according to the STATUS OF HIS JOB and HIS PROFICIENCY IN IT. The status of his job is its relative scope in the work of the enterprise. Job evaluation is the gauging of this relative scope. It has to do with the organization and human nature aspects of labor. We must evaluate the jobs in the organization before we can rate the individuals for compensation according to work performed. Job evaluation is therefore the keystone of fair rating and administration with respect to salaries and wages.

This subject has been one of much conjecture and confusion in which the main point is lost sight of. This is that, in a division of labor by organization, work differentiates in what may be regarded as Two DIMENSIONS—

One as to KIND OF ACTIVITY OR CLASS OF FUNCTION, such as engineering, operating, accounting, sales, etc.

The other as to LEVEL OR SCOPE OF ACTIVITY in the work as a whole regardless of kind.

These two dimensions are independent of each other and should not be confused, see Table I.

**Scope of Activity.**—The enterprise is conceived with certain objectives. For their accomplishment, plans and designs must be made and kept in progress with resources of capital and human abilities, investigations must be made, and operations must be conceived and carried out from highly technical activities to the simplest routines. This is the work of the

enterprise from the aspect of level or scope. That is to say, its activities extend through a gamut of levels in sequence—activities of very simple character, activities of higher degrees of skill, activities involving judgment and the application of principles in various degrees, and, in the upper levels, the planning, establishing, coordinating and directing of all of the activities.

**Gradation of Activity.**—We have, therefore, in every organization, a continuous gradation of activity from the most comprehensive to the least comprehensive job or the reverse, regardless of department or kind of work. Jobs in work of all kinds are differentiated through the *same levels* of activity and the higher the level of activity, the greater is the *achievement* in work of any kind within the organization. The gamut or scale of levels of work in an organization is therefore the true *common basis* for the evaluation of the jobs. The true position of each job in this scale represents its relative control or effect and responsibility in operations as a whole. It is the status of responsibility. The determination of this position or status is job evaluation.

In order to determine the status of each job in an enterprise we must first *comprehend the range* of the work of the enterprise by distinguishing and designating the levels of work which it includes, as shown in Figure 6, and then refer the jobs to this range and to each other, and place them in their respective levels. This is to circumscribe the work as a whole and, after defining the jobs, *allocate them to their respective levels* according to the various aspects of them which are pertinent. This will set forth comprehensively the relative scope of each job as a unit in the work as a whole. Any valid data are admissible for the objective in view as indicated in the preceding outline for job analysis.

Gradation has already been indicated among administrative positions in Figure 3. Figure 6 is a descriptive outline of the gradation of work in an organization. It outlines the gradation of *all positions* in the organization whether they have

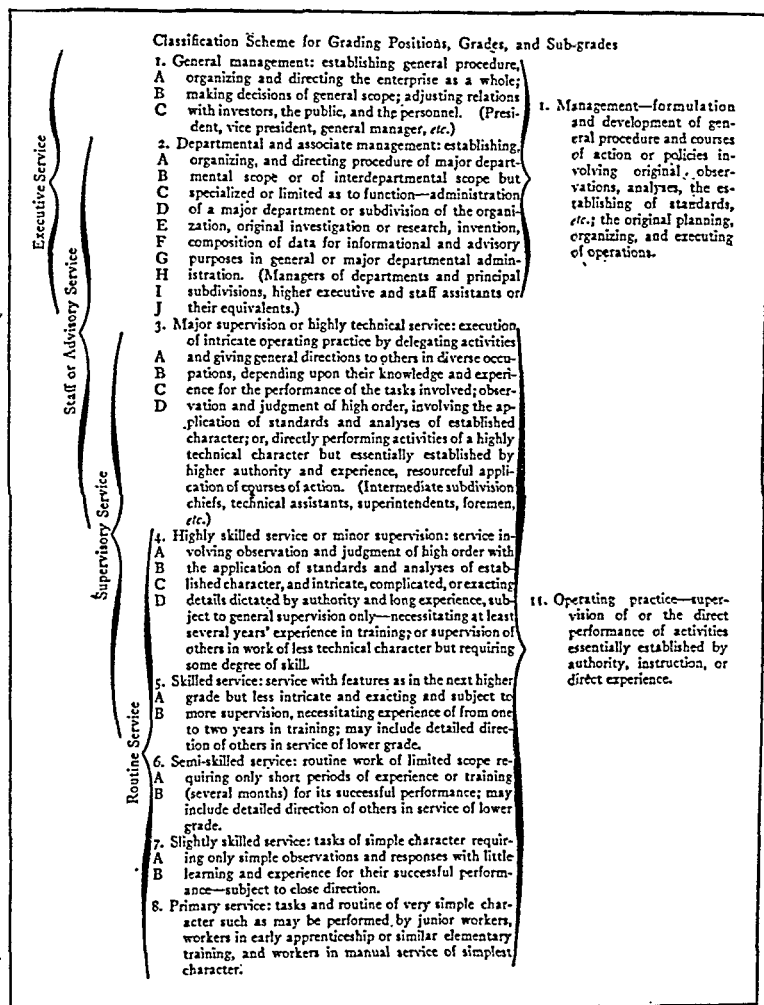


Figure 6. Descriptive Outline of Gradation of Work in an Organization

administrative features or not. The gradation is represented as a scale of levels or service grades which exist to a greater or lesser extent in every organization.

In Figure 6, grades are outlined generically under numbered captions. Within these, letters are used to indicate further division into specific grades or sub-grades. The activities, with respect to scope or comprehensiveness, divide naturally into two general divisions—those designated here as "Management" and those designated as "Operating Practice," according to the definitions given in the outline. Management includes development and formulation of general policies and procedures—the original planning, organizing, and *establishing* of operations, that is, *determining* what is to be done. Operating practice includes supervision of or the direct performance of activities essentially *established* by authority in management, by instruction in standardized practice, or by direct experience, that is, doing what has been *determined* to be done. Each of these divisions, Management and Operating Practice, subdivides according to the generic definitions of the outline.

Below the levels of activity included in management we are following a beaten trail *determined* for us, but within them we are blazing the trail or *determining* new courses of action. This characterizes management, either in the enterprise in which we work or in our personal affairs. Work from the simplest routines on through skilled and highly skilled service including the trades and arts is learned through the experience of trial and error and instruction. This is true also of highly technical service so that work through all of these levels is essentially of determined character. Even highly technical work taught in technical school courses is determined for the individual. When he applies his knowledge in new situations, however, and solves the problems presented, he is contributing to decisions and plans which *determine* courses of action and constitute management and creative work.

**Scale of Grades.**—The jobs in any given group may be arranged in sequence with regard to comprehensiveness by persons who know them. The range of all of the jobs in the group extends from the most comprehensive job at one extreme to the least comprehensive job at the other. The distance between can be marked off by any convenient number of points equally spaced as a scale. Figure 6 represents such a scale for an organization as a whole with descriptive definitions for its major divisions. The jobs are placed upon it in sequence by *comparison and interpolation*. It is not feasible to write definitions more specific than in Figure 6 but, within the generic subdivisions, jobs may be arranged in sequence and aligned into specific grades designated by letters by *weighing* one with another. The number of specific grades which can be distinguished within the generic subdivisions and the gradation as a whole is *not fixed*, but distinctions should represent appreciable differences in median compensation rates which would be scarcely less than 10%. This limits the number of grades for practical purposes.

By classifying the jobs into the grades which have been distinguished they are evaluated. Since the gradation is continuous, there is no basis for establishing scales for jobs in different departments or groups separately. It ignores the principle of *unity of the whole* and the *equality of standards*. It represents confusion of the concept of level of work with that of kind of work which is a common error in job evaluation, misleading in its effects.

In human work both mental and physical processes are involved *inseparably* and attempts to classify people as manual workers and white collar workers in the sense that the one is characterized by muscular force and the other by brain activity is fallacious and misleading. Shop work is often as light physically as office work and routine activities in offices rank in the same levels as routine activities in shops. There is no more brain

activity in them and no basis for establishing separate scales for their evaluation.

**Phases of Activity.**—In the outline presented in Figure 6, activities within the organization are shown to consist of four *phases* designated as Routine Service, Supervisory Service, Staff Service, and Executive Service, to which reference has been made in the preceding outline of job analysis. The ranges of these phases are roughly shown. The terms are merely descriptive of certain features of activity, and differences between the types of activity which they represent, considered as phases, are relative rather than absolute, both as to kind and range, and they overlap considerably. This is true more or less of species of any kind. Grades cannot be so specifically defined that jobs can be placed in their proper grades just according to grade definitions. Comparisons between them must be made also. Routine service extends well up into "Operating Practice"; supervisory service extends higher, but some supervisory service is lower than the more intricate routines. Staff service, being investigational and advisory in nature, extends well up into "Management," but some staff service is lower than the higher supervisory service.

**Terms in Progressive Sequence.**—The term "skilled," used in the outline, according to modern authorities, is not restricted to manual work as sometimes presumed. In any functional class, routine or repetitive work in which "habits may be developed and integrated through practice into unified patterns of behavior suitable for meeting needs"<sup>1</sup> may be classified as "skilled" in various degrees according to its degree of complexity. Degrees in skilled work represent degrees in scope of jobs because they involve corresponding ranges of human functions with corresponding degrees of achievement. In human activity

<sup>1</sup>From T. H. Pear, quoted by M. S. Viteles, *Industrial Psychology*, W. W. Norton & Co., Inc., 1932, pp. 120 ff.

since mental and physical processes are involved inseparably, habits may be developed and integrated through practice into unified patterns of behavior suitable for meeting needs, not only in manual work, but in office work, selling, teaching, speaking, or activity of any other kind. In the higher levels of work, judgment predominates over habit as the work becomes more technical and managerial, involving the application of scientific principles and the development and execution of plans and policies. Thus the terms "Highly Technical" and "Management" may be used in classifying work in the higher grades of service and levels of work form a continuous progression from very simple routines through the grades of skilled work, highly technical work, and management to top management as a gamut or scale and common basis for job evaluation.

**Abilities in Human Nature.**—Levels of activity within an organized enterprise are related to those of our individual selves. Our activities as individuals range from simple reflexes, which we are constantly performing without thinking, through the activities of various degrees of skill which we learn to perform by trial and error and instruction and those which include judgment in various degrees, to those which include constructive thinking and original planning of high order. This range of activity represents the range of *general ability* inherent in human nature and therefore in organizations of people, while kinds of activity of individuals and of human organizations are related to *special human abilities* which enable the individual to do better in certain kinds of activity than in others. Organizations of human beings must conform to human nature.

The *parallelism* between grades of service and mental grades (expressed in terms of score made in an intelligence test similar to the Army Alpha) is shown in Table I. The level of activity attainable by the individual either in the organization or working alone is determined by his level of general ability or intelligence, while the kind or class of function in which he can work

best and therefore most readily attain the level of his general ability is determined by his special abilities.

**Specialization and Integration.**—Organization entails *specialization* so that each person's job is limited to a *particular level* and a *particular kind* of activity in the work of the whole. In various executive and staff positions, particularly in research work, constructive thinking and original planning of high order are required. They may be of equal or higher order in some staff positions than in superior executive positions. Plans and decisions of executives often depend upon the disclosures and advice of staff persons. This may seem to conflict with the order of their levels of work. It is not confliction, however, since organization entails *integration* together with specialization, and integration assigns to administrative positions *jurisdiction* of wider scope in the activities of the enterprise than their subordinate positions. They, therefore, represent higher levels in the work of the enterprise than their subordinate positions although some of the subordinate positions may require as much or even more general ability. In such positions, it pertains to a narrower scope of activity in the work as a whole.

In an enterprise, therefore, the specialization of work in two dimensions, one as to kind and the other as to level, relates to the *abilities in human nature*—general and special and to the laws of organization. It is not an arbitrary assumption for payroll administration.

**Classes of Functions.**—Kinds of activity or classes of functions are fields of activity in which individuals work, such as engineering, mechanical operations, purchasing, sales activities, accounting, clerical activities, general administration, etc., with many ramifications. They may or may not closely follow the departmental pattern. In Table I, classes of functions are shown horizontally and may be extended indefinitely while level of work is indicated by the grades outlined in Figure 6, in the



vertical direction. There is no basis for ranking one class of function higher than another except as the jobs which it includes may be graded higher, as shown by the placements in the table. That is, *the development of a function in the organization is according to the jobs which it includes*. Accounting may outrank designing because it contains one or more jobs of higher level or the reverse may be true in some organizations. General administration outranks other classes of functions only because it includes the positions of president and other executives, such as general manager, which have jurisdictions of widest scope in the organization. Some jobs in general administration, such as executive assistant, however, may rank lower than jobs in other functional classes. It is evident therefore that the same scale of levels of work is common to all functional classes and there is no basis for establishing grades for jobs in different departments or groups separately. It prevents equalization of standards for the organization.

**Evaluating the Jobs.**—As shown in Figure 3, the administrative position at the head of each subdivision is found to be within the limits of a small number of grades. In evaluating the jobs, these may be located tentatively at first, using the organization chart, Figure 6, the job specifications and the outline for job analysis, preceding; then, subordinate positions can be placed with reference to them and to each other, using Figure 6, the job specifications and the outline for job analysis, making adjustments back and forth until the entire pattern is completed. As placements are made from higher to lower jobs, the proper grades of some of the jobs, particularly the lower ones, become quite obvious and we can retrace the process from lower to higher, correcting tentative placements until all of the jobs are satisfactorily evaluated with respect to each other in the same subdivision and with respect to those in other subdivisions.

It is sometimes asked: "How can jobs in different kinds of work, such as office and plant, be compared as they are so dissimilar?" It is not usually necessary to make direct comparisons between them but levels of work are common to both and they are a common basis of evaluation. Aspects of comparison pertaining to level, represented by requirements listed in the outline for job analysis, are common to both so that differences as to kind or field of work do not affect job evaluation.

The weighing of jobs, one with another, is simple and practicable when we know the jobs and the organization and are not attempting to make grade distinctions of absurdly small values. Arranging jobs in ranking order is comparatively simple to those who know them and it is not difficult for a number of persons to agree upon it, either in committee or working separately and conferring with each other afterward. Figure 7 may be used to advantage for listing jobs and checking the grades as they are determined.

In the outline for job analysis, preceding, various requirements of a job are stated as having a bearing upon the level or scope of the job in the work as a whole. If differences as to grade (level) are not positively apparent in weighing jobs one with another, these requirements, considered one after another in making the comparisons, should reveal the graded sequence or approximate equality. By using Figure 8, several jobs may be considered together. Enter the job titles in the spaces provided and check for each job the appropriate requirements from the list on the form. The sequence or the approximate equality should then be more apparent than before and it may be entered numerically at the bottom of the sheet for use in referring back to Figure 7.

The items with which we are concerned in job evaluation pertain to various observable *aspects* of jobs according to which we can make comparisons and judgments. They relate to the extent of jurisdiction through administrative channels, which

JOB EVALUATION  
DATE.....

DEPARTMENT.....  
DIVISION.....

SUBDIVISION.....  
See Detailed Organization Chart No.....

GRADES

**EXECUTIVE SERVICE**

**STAFF OR ADVISORY SERVICE**

**SUPERVISORY SERVICE**

**ROUTINE SERVICE**

1. GENERAL MANAGEMENT: Establishing general procedure, organizing and directing the enterprise as a whole; making decisions of general scope; adjusting relations with investors, the public, and the personnel.
2. DEPARTMENTAL AND ASSOCIATE MANAGEMENT: Establishing organizing and directing procedure of major departmental scope or of interdepartmental scope but specialized or limited as to function;—administration of a major department or subdivision of the organization, original investigation or research, invention, composition of data for informational and advisory purposes in general or major departmental administration. (Managers of departments and principal subdivisions, higher executive and staff assistants or their equivalents.)  
G to J
3. MAJOR SUPERVISION OR HIGHLY TECHNICAL SERVICE: Execution of intricate operating practice by delegating activities and giving general directions to others in diverse occupations, depending upon their knowledge and experience for the performance of the tasks involved; observation and judgment of high order, involving the application of standards and analyses of established character; or, directly performing activities of a highly technical character but essentially established by higher authority and experience, resourceful application of courses of action (Intermediate subdivision chiefs, technical assistants, superintendents, foremen, etc.)
4. HIGHLY SKILLED SERVICE OR MINOR SUPERVISION: Service involving observation and judgment of high order with the application of standards and analyses of established character, and intricate, complicated or exacting details dictated by authority and long experience, subject to general supervision, only—necessitating at least several years' experience in training; or supervision of others in work of less technical character but requiring some degree of skill.
5. SKILLED SERVICE: Service with features as in the next higher grade but less intricate and exacting and subject to more supervision, necessitating experience of from one to two years in training; may include detailed direction of others in service of lower grade.
6. SEMI-SKILLED SERVICE: Routine work of limited scope requiring only short periods of experience or training (several months) for its successful performance; may include detailed direction of others in service of lower grade.
7. SLIGHTLY SKILLED SERVICE: Tasks of simple character requiring only simple observations and responses with little learning and experience for their successful performance—subject to close direction.
8. PRIMARY SERVICE: Tasks and routine of very simple character such as may be performed by junior workers, workers in early apprenticeship or similar elementary training and workers in manual service of simplest character.

Rate Ranges		JOB TITLES																								
2	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
3	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
4	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
5	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
6	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
7	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
8	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

Figure 7. Grade Checking and Job Evaluation Chart

# JOB REQUIREMENTS

JOB  
TITLES

## TECHNICAL KNOWLEDGE AND Experience—

Trade school, commercial school or apprenticeship of	several months 1 to 2 years 2 or more years
Higher technical training of	1 to 2 years 3 or more years
Experience in special work of	several months 1 to 2 years 3 or more years

## GENERAL KNOWLEDGE AND EXPERIENCE—

Some common school education Common school education High school education or High school education or equivalent	1 or more years
Academic education, college grade, of	1 to 2 years 3 or more years
Occupational experience, general or varied.	1 or more years

## PERSONAL QUALIFICATIONS AND OTHER REQUIREMENTS—

Ability to observe, learn by experience and follow directions in work of	very simple character considerable complexity highly complex character
Application of	elementary principles advanced principles complex principles
Ability to develop and plan new work	of limited scope wide scope very wide scope
Maintenance of standards established in practice with	close supervision occasional supervision
Application to a	fixed routine varied routine
Initiative and resourcefulness in	scheduling and dispatching work developing standards making constructive recommendations
Alertness in observing hazards and avoiding accidents	
Establishing new standards, originating, planning, organizing and enforcing new courses of action with jurisdiction of	very limited scope wide scope very wide scope
Search for discovery of facts, scientific, commercial, etc. systematizing and interpreting the meaning of disclosures, reporting results of research with recommendations, of	very limited scope wide scope very wide scope

## INDICATION OF GRADED SEQUENCE BY NUMBER—

Figure 8. Comparison of Job Requirements

constitute the "nervous system" of the organization, and to relative scope from other aspects. They do not constitute separable job factors or elements to be assigned values which, counted up, represent the worth of the job. Human functions and organization relations are not so easily identified, measured, and circumscribed. A factor is or represents something of the nature of *an element* which enters into the composition of something else and is *separable* from other components. An aspect is a *view* of the thing as a whole as it appears from a particular standpoint. It is *not separable*.

Items considered as factors are largely intangible as to both quality and quantity and such a set of factors falls short of including everything which a job may comprise. Evaluations of factors themselves when attempted are, therefore, generally very arbitrary. Mathematical accuracies computed from guesses and assumptions to begin with are misleading in themselves and, moreover, fail to take account of the job *as a whole* with relation to the other jobs in the organization system or the *combined pattern* of activities—the coordination of jobs. They focus upon the isolated job and isolated details and frequently relate to conditions which are extraneous to the job activity.

For example, it is quite possible that, from the viewpoint of education required, degree of skill involved, money value of material or equipment worked upon, time usually required to become skilled, number of persons available for the job, etc., the jobs of chief engineer and a subordinate division head may be nearly identical. However, the occupant of the former has the wider jurisdiction and control in determining the progress of work in the organization through the men subordinate to him which clearly places his job at a higher level. In this case, if we inject a value for "jurisdiction," there would be a difference in the results, but the item "number of persons available for the job" is extraneous to the situation. Moreover, it is hardly possible, either theoretically or practically, to compile a list of

items sufficiently comprehensive to cover these and all the other jobs in the organization and figure out their qualitative and quantitative values so that a mathematical calculation in each distinct case would represent its true status in the work as a whole.

In contrast to this method of evaluation, the use of the series of levels which comprehends the range of work of the organization provides a real basis of reference for the job units in the organization scheme, made more and more definite as representative jobs of the various kinds are placed in it.

Physical *effort* is sometimes taken as a factor in so-called "point methods" of evaluating jobs. It is unfair to penalize some jobs, for example—the supervisory jobs, because they require less physical energy than many manipulative jobs. Such an assumption disregards individual differences as to physical energy. It overlooks the fact that to the man who is physically capable the exercise of physical effort on a job requiring a great deal of energy constitutes no greater demand than the exercise of a milder degree on the part of a man with mediocre physical ability who may be selected for a job involving little physical energy. The problem here is that of *fitting the man to the job* and not that of making wage rates dependent upon the amount of effort required by the job. The effect of the variable—"physical effort required"—can be made constant by adequate selection. A similar argument would apply to such use of the term *job difficulty*.

This criticism applies with even greater force to *monotony*. Experimental work has shown that monotony is only to a slight extent characteristic of a job. Susceptibility to monotony is more definitely a characteristic of certain people who should not be placed in work which is repetitive and monotonous *to them*. A large proportion of individuals easily adjust themselves to repetitive work and even *prefer it* so that monotony has no place in job evaluation or in compensation rating.

Even the feature of *time* usually considered necessary to acquire the degree of skill or proficiency required in an occupation varies with circumstances. Suitably selected men with two to three years of high school education require an additional one to two years of intensive training in a typical electric substation before they can be entrusted to handle the substation. This is necessary largely because neither the school nor the general environment supplies training or practice in the highly specialized skills and knowledge which are necessary for the work. This work, however, is only in a lower level of "skilled service" and little above that of street car operator. Somewhat the same type of man can be trained in four weeks to operate a street car safely. The time is shorter in this case because many of the primary skills involved in street car operations are developed in the everyday activities of the individual. It is unfair to rank the first job above the second in direct proportion to the greater length of the training merely because the training starts approximately from scratch.

Money *value of material* or equipment worked upon as an item in evaluation is often taken for more than its real significance. Spoilage is to be avoided in the work or handling and this requires a particular *degree of skill* or alertness according to circumstances. The skill or alertness are the requirements to be considered in evaluating the job rather than the cost of the articles worked upon.

Similarly, *money returns* from commercial activities such as sales and purchasing must be considered only in the *concrete significance* in job evaluation. Techniques in sales and other commercial activities show results in terms of money but this in itself does not merit a higher evaluation of the job than the same grade of technique in other fields, such as engineering or accounting. Results of work in these fields might also be shown in terms of money by some calculations and may be equal to or greater than might be shown in commercial fields.

Above all else, in job evaluation, the items which we use in making comparisons and judgments *should relate to the jobs themselves* and should not include such utterly extraneous considerations as prevailing rates of compensation in a locality or the number of persons available in the labor market. These items pertain to the economic aspect of labor entirely and have no bearing upon the relative scope of a man's work in an organization. Neither should we employ items pertaining to kind of work and special abilities such as physical effort, monotony, honesty, cleanliness, etc., instead of those which pertain to level of work. We must be mindful, also, of the fact that it is jobs which are being evaluated and *not the persons* who may occupy them. The individual's qualifications may be broader than his job requirements but this should not affect the evaluation of his job. College graduates may take jobs in the lower levels in shops and offices but this does not raise the jobs to higher levels.

In some instances, however, the individual *makes his job* what it really is. If he is not held down, he may gradually take to himself additional and larger duties or he may enlarge his original duties and develop his job to a higher level of work. Its acknowledgment is a *promotion*. On the other hand, he may do the opposite by permitting responsibilities to slip from him or it may be that he cannot prevent changes which take from him responsibilities which he once had and this brings about a *demotion*. Such instances are common in every establishment. Job evaluation must keep pace with change. Reviews should be made periodically in all departments in order to keep job specifications, organization charts, job evaluations, and the designations and ratings of individuals up to date.



## CHAPTER 5

### COORDINATION OF COMPENSATION STANDARDS

Well-balanced payroll distribution in any organization requires *coordination* of standards of compensation with the gradation of positions or jobs. Many irregularities will exist in any payroll unless a gradation of rates is established to coordinate with the gradation of work and is maintained under centralized control. The rates in some departments will be higher than in others for work of the same level. Even within departments such irregularities will be found, particularly where unequal bargaining power among individuals or groups is exercised or where increases are granted haphazardly. In some large organizations, standards differ among departments as much as among different enterprises. As long as such conditions exist some individuals will draw more than their share of the payroll distribution and others less. It is folly to assume that the personnel will not sense these inequalities and react in loss of faith, confidence, loyalty, and cooperation.

**Rate Ranges.**—Moreover, unless we establish a *range of rates* for each job instead of a single rate there will be no way to recognize *differences in proficiency* among individuals and no way to increase the rates of individuals as they develop in proficiency without being advanced in position. If we establish one range for each grade or level of work, these requirements will be provided for and all positions or jobs of the same level will have the *same standards* of compensation in all departments of the organization. Also, if the ranges are of the same relative length and the same relative difference apart, all individuals will have the *same opportunity* to progress in their jobs, in so far as

the rates of compensation are concerned, and the ranges of compensation will differ according to level of work. That is, they will comprise standards which are *coordinated* with the gradation of positions or jobs. Therefore, the job evaluation and the coordinated rate range together furnish fair standards and limits for the compensation rating of the individual.

A *differential* of much less than 10% between the rates of a range and between the median rates of adjacent ranges is too small to be appreciable except among the higher rates, and among the lower rates the differential may be somewhat greater. This is shown in Figure 9 and Table II. Each range here shown includes five rates. For the five lowest grades, the progression from rate to rate and from median to median as well as from minimum to minimum and maximum to maximum is more than 10%. For the next twelve grades, it is approximately 10% and above these it is less than 10%. These conditions, of course, are arbitrary but we can assume that the ranges should have scope sufficient to permit adequate advancement to individuals who become highly proficient in their work but cannot be advanced to other jobs. Moreover, an increase of approximately 50% from the minimum rate to the maximum rate of a range is not unreasonable.

The *number of ranges* of rates which can be used in practice determines the number of levels or grades of work which can be recognized in job evaluation as we must have a different range for each grade of work. Figure 9 is a composite of the scale of service grades of Figure 6 and a series of rate ranges, one for each grade, fulfilling the conditions stated above.

In compiling such a system of rate standards, we can *first examine the payroll* and ascertain the *actual range* of rates for the jobs in each grade according to the job evaluation. With this done, it is simple to determine the median rate of each range, align the median rates in grade order, and draw the curve which they represent. In doing this it is necessary to resolve all rates

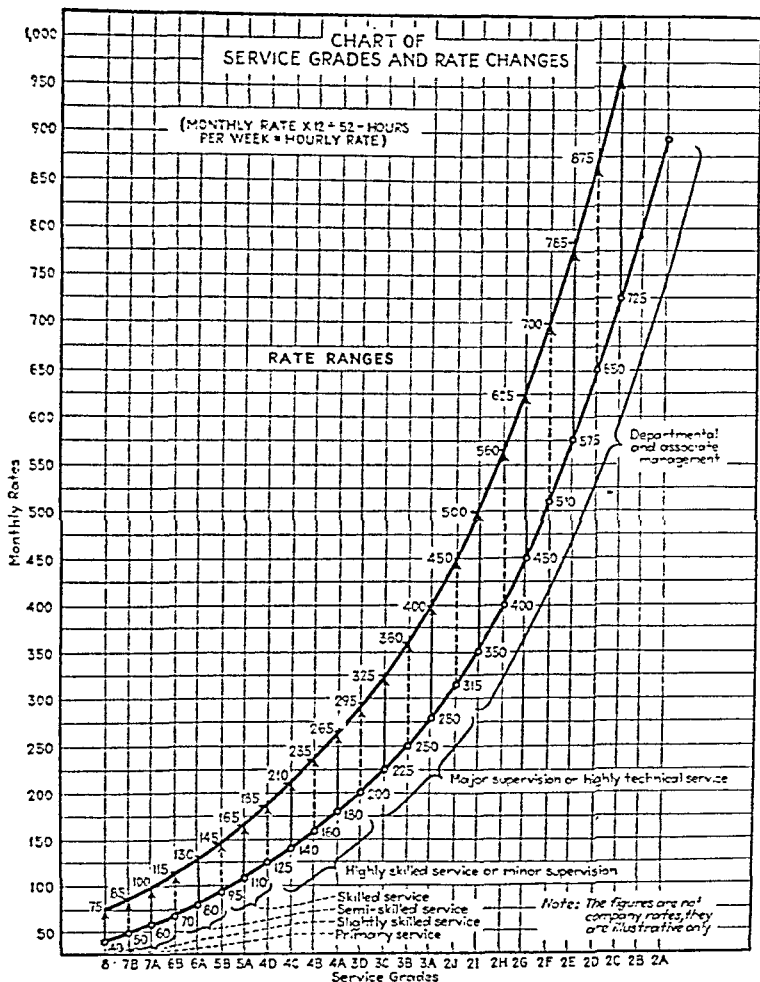


Figure 9. Chart of Service Grades and Rate Changes

TABLE II. PROGRESSION OF RATES IN RANGES OF TABLE I AND  
FIGURE 9

(Median rates are in parentheses)

Range					
(1)	40	45	55 (57.50)	65	75
(2)	50	55	65 (67.50)	75	85
(3)	60	70	(80)	90	100
(4)	70	80	90 (92.50)	100	115
(5)	80	90	100 (105)	115	130
(6)	95	105	115 (120)	130	145
(7)	110	120	135 (137.50)	150	165
(8)	125	140	(155)	170	185
(9)	140	155	170 (175)	190	210
(10)	160	175	195 (197.50)	215	235
(11)	180	200	220 (222.50)	240	265
(12)	200	220	245 (247.50)	270	295
(13)	225	250	(275)	300	325
(14)	250	275	300 (305)	330	360
(15)	280	310	(340)	370	400
(16)	315	345	375 (382.50)	410	450
(17)	350	385	420 (425)	460	500
(18)	400	440	(480)	520	560
(19)	450	490	530 (537.50)	575	625
(20)	510	550	600 (605)	650	700
(21)	575	625	675 (680)	725	785
(22)	650	700	750 (762.50)	810	875
(23)	725	775	835 (850)	900	975
(24)	810	870	930 (942.50)	1100	1075
(25)	890	950	1025 (1032.50)	1100	1175

Progression more than 10%

Progression approximately 10%

Progression less than 10%

to the same denomination, such as the monthly rate, which represents income to individuals for full-time work whether their full-time working hours are the same or variable. The ranges can then be adjusted to meet the required conditions.

If the curve which represents the median rates and the curves which represent the minimum rates and the maximum rates do not increase in slope by approximately *the same percentage differential* from grade to grade, it is obvious that the level of compensation of individuals in some jobs is relatively less than the level of others in jobs of lower grade.

Rate ranges in such a system *necessarily overlap*. This is rational because the differences between adjacent grades are not large and highly proficient individuals with long service in a job should be rated higher than those of considerably lower proficiency and shorter service, although in work a grade or more higher. While overlapping ranges have some rates in common, the higher ranges have higher minimum rates and higher maximum rates available to the individuals. If we should establish only one rate for each grade of job, all individuals in jobs of the same grade would be compensated alike, ignoring differences in proficiency and length of meritorious service. Attempts to overcome the inequity of this situation by making more grade distinctions with smaller rate differentials lead to confusion between grade distinctions and proficiency distinctions.

The rates may be *raised or lowered* as a whole, on a percentage basis, without changing their relationship and so may be adjusted to conform to changes in business conditions or in the productive efficiency of the organization as a whole. Adjustments for a particular class or group because of changes in business conditions, without affecting the entire organization, would be discriminatory and inequitable.

**Minimum Rates.**—The *minimum rate* in any range is the lowest rate which should be assigned to an individual in any job

within the grade to which the range applies. If the individual does not merit this rate, he should not be permitted to retain the job. If he is not fully up to it, he should be given a designation of lower grade until he grows up to the standards which the job requires.

**Maximum Rates.**—The *maximum rate* represents the highest rate of income which the status of the job normally justifies to the incumbent. Like the other rates of the range, it may be comprised of salary or wages entirely, of this plus a bonus or commission, or of piece rates of production. When a bonus, commission, or piece rate to any extent determines the earnings of the individual, the amount may become more than the maximum rate for his job at times but it should not normally average more than this for a long period. The maximum rate represents the equitable income for what may be assumed reasonably to be the *standard of maximum proficiency* for the position with relation to the other positions in the organization and the amount of gross income available for distribution through the payroll. It should be within the reach of the best workers, not just "geniuses." It would be better to pay a "genius" something more than the maximum rate than to hold the others down because of their inability to match his performance.

Some executives firmly believe that no maximum rates should be established. They say that a man should be paid as much as he can earn in any job and that is what he is worth. But how much *can* a man earn and what is he worth in any job when there is a limited amount of income available for distribution to all? Values are relative, not absolute, and the individual in an organization earns a share in the distribution rather than an absolute amount. An individual doing a full day's work in a job of any given level should be paid more than one doing a full day's work in a job of lower level. It follows that there must be a stopping point or maximum rate

for every level of work. Without it and with a limited amount of income available for payroll distribution, it would mean that some persons in lower positions would receive more than their share and some in higher positions less. Equity requires *equal gradation* in the series of maximum rates as well as of minimum rates.

**Incentive Rates.**—Incentive rates are normally as effective *within the proper range* for the job as beyond it. They are merely the returns for the “day’s work” which lends itself to quantitative measurement. The full day’s work of a kind which can be so measured, however, does not merit a higher return to the individual than that of a kind which cannot be so measured but is equal as to grade. We are not concerned here as to details of “incentive plans.” There are various conditions which should govern them beyond those mentioned above. Payroll administration in general includes the incentive principle very definitely and it can accept “incentive plans” in the specific meaning of the term, either in offices or in shops, as special means of gauging individual proficiency, in part. Incentive plans are not the means of gauging individual proficiency in the *entirety* because there are aspects of employment which are not comprehended by them, such as attitude, loyalty, association, reliability, etc. Incentive plans, in any event, are *subordinate* to the general plan of distribution which payroll administration represents.<sup>1</sup>

**The General Level.**—The general level of rates of pay in an enterprise is represented by the average rate on the payroll. It is determined by a number of factors, some of which are peculiar to business at large and others to the enterprise itself. Under payroll administration, which represents a plan of distribution, the general level is governed by systematically determining the rate ranges for the jobs and assigning the rates to

<sup>1</sup> See R. S. Uhrbrock, “A Psychologist Looks at Wage-Incentive Methods,” *Inst. of Mgt.* 15, American Management Association, 1935.

individuals. There is no known formula for sharing income between investors of capital and the people employed in an enterprise. However, principles of budgeting income distribution judiciously on the basis of past experience and probabilities from year to year can be applied according to a policy of distribution which is reasonable and fair to all concerned. A plan of payroll distribution entails *budgeting* the amount for distribution through the payroll with relation to other amounts and the prosperity of the enterprise from year to year. In the assignment of rates to individuals, increases are granted to individuals more or less frequently according to the available income for distribution and according to the proficiencies of the individuals. The budget should systematically set forth the availability, departmentally; and *periodic reviews* of the payroll for every department should insure the fair consideration of all individuals. Moreover, the rates of the ranges may be *raised or lowered* according to the available income for distribution. Experience from year to year is the chief guide to these adjustments. The most essential condition with respect to the rate ranges is that they *coordinate* with the gradation of work. Figures can be assumed arbitrarily as base rates and raised or lowered by percentage according to the amount which can be budgeted for distribution from time to time.

Equity in payroll distribution, therefore, requires adjustment of rates with respect to:

1. The general level attainable in the distribution of income.
2. The status of the job in the organization.
3. The proficiency of the individual in his job.

**Profit Sharing.**—When the amount of income of the enterprise is definitely made a factor in determining the general level of the rates of pay for a period of time, we are applying the principle of *profit sharing* and the fact should be made known. It should be appreciated by participants. Since this factor and various costs change from year to year, it is well to



apply it as a percentage addition to the base rates established for the ranges. The rate ranges, therefore, may be established for a level which probably can be maintained for a long time for base rates and, each year, if the previous year's income has been sufficient, a percentage can be added as a *bonus*, making it known at the beginning of the year what the percentage of the bonus will be and that it is for the year only, the amount, if any, in future years being contingent upon conditions. This minimizes the probability of making actual reductions in the established rates when income falls off.

**Cost of Living.**—Changes in general price levels or the value of money, affecting the *cost of living*, react upon the general level of rates of pay from the aspect of price and we assume that with a going concern the level of rates will support adequate standards of living. Individuals, however, are paid because of *participation* in productive enterprise and not because of their needs. The general level of rates of pay which can be reached depends upon the income and the efficiency of the enterprise rather than upon cost of living. How the individual spends his income has no bearing upon his earnings. They should represent his participation in the enterprise regardless of where or how he lives or his social status in the community.

**Length of Service.**—In any specialized job, more or less time in the job itself, or in previous work similar to it, is necessary for the acquisition of a high standard of proficiency and still more time is necessary to establish a record of sustained proficiency. Therefore, *length of service* to some extent enters into the question of rating but it should count only in so far as it pertains to a record of *sustained* proficiency and loyalty. Too frequently it is considered instead of proficiency in granting increases in rates. It is not in any sense a measure of pro-

iciency and should not be, in itself, the basis of rating the individual in the range of his job.

**Time Limits.**—In higher positions, activities have longer cumulative effects and the attainment of proficiency requires more time than in lower positions. Periods between increases in rates should, therefore, be longer for higher positions than for lower positions. Moreover, many lower positions are occupied by young persons who are rapidly approaching maturity and developing more rapidly in proficiency than persons in later years. Accordingly, *time limits* for rate increases should be established, for example—three months for positions in grade eight, six months for positions in grades six and seven, and one year for higher positions. Limits of 10% as to amounts are reasonable or the theory of preferred numbers may be utilized. Time limits taken from the dates of employment of the individuals or the dates of their last increases have a distinct advantage over the establishment of annual or semi-annual calendar dates for granting increases as they eliminate the expectancies and disappointments throughout the organization at these times which always occur with the practice of granting increase only at the first of the year or some other fixed date.

**Hours of Work.**—The question as to the consideration of differences in *hours of work* among different jobs as a factor in assigning rates of pay is sometimes perplexing. Some jobs require seven or eight hours work per day while others require more and the question often arises as to whether or not the jobs which require the longer hours should pay more than those with shorter hours, other things being equal. Small differences in working hours can usually be charged to the "day's work," as a matter of course, but differences of two or three hours a day deserve some consideration. When hourly rates are paid, the differences are compensated for if the rates are the same

but the rates will not be the same if they are derived from a monthly rate basis by the formula given in Figure 9. In order to rectify these inequalities, a standard number of hours can be adopted for changing rates from the monthly basis to the hourly rate equivalents. Eight hours per day may be taken as a fair standard; then, the hourly rate equivalent to a monthly rate in all cases would be the monthly rate multiplied by twelve (yearly rate), divided by the number of working days in a year (daily rate) and divided by eight. On this basis of conversion, men working eight hours per day could reach the maximum limits of their rate ranges; for an average of less than eight hours they could not receive as much but, for more than eight hours, they could receive more, which would be equitable.

**The Job's Worth.**—The *worth* of a job in an organization is therefore a *relative value*, not an absolute value, and it cannot be represented as an exact number of dollars. In dollars, it can be represented only as a range of rates providing for individual differences and related to the job status and the income available for payroll distribution which may change from time to time.

## CHAPTER 6

### JOB CLASSIFICATION

Classification enables us to consider and deal with things together according to peculiarities which they possess in common. A classification may be on a *superficial or arbitrary* basis, such as an alphabetical classification, serving only as a convenience, or it may be upon a basis of fundamental relationship when it is known as a *natural or real* classification and serves to insure like treatment to like things. In payroll administration, both types of classification are necessary in dealing with positions or jobs and the persons in them but it is most important to avoid confusion between the arbitrary and the real bases of distinction. Moreover, unless we are *consistent* in adhering to the peculiarities which are taken as the basis of classification, any classification will become muddled, confused, and misleading.

**Functional and Graded Classifications.**—We have seen that the positions or jobs in an organization have two outstanding real differences which must be considered independently in order to fully identify and evaluate each position or job. One of these is in kind of function and the other is in grade of function or level of work with respect to the work as a whole. In Table I, they follow two dimensions. In order to know fully what a person's job is we must know not only the *kind* of work in which he is engaged but also the *grade or level* reached by his activity in the operations of the enterprise. Each of these considerations necessitates a *separate* classification. The one is a *functional classification* and the other is a *graded classification*.

We classify when we use *titles* to designate like positions by the same name, and the title generally indicates, although very roughly and often by implication only, both kind and grade

of work. For example, "Machinist" means highly skilled machining; "Machinist, 2nd Class" means work of the same kind but of less skill; "Laborer" means manual activity involving little skill; "Clerk" means routine office work. If the title is not specific, modifying words are added to it when a specific meaning is required, as in "Assistant Clerk," "Machinist, 2nd Class," etc. In all cases, the two ideas—kind and grade, are called forth. They require two separate classifications which, however, may be compiled in a composite statement or tabulation. The title is a composite statement, however it may be abbreviated, of the two ideas and we must not lose sight of their requiring independent consideration.

Classifications of occupations *at large* for the consideration and treatment of social problems should not be confused with job classifications *within* enterprises. A classification of occupations at large can take no account of the *organization relations* of individuals within an enterprise. It therefore cannot evaluate individual participation in production and may be more harmful than helpful if used in connection with payroll distribution. Class distinctions in the community at large are very different from distinctions with respect to organization relations within an enterprise. They lose sight of the individual because the basis for individual consideration with respect to participation in production and income distribution is *internal* to his enterprise, and class distinctions at large are *external* to it. Efforts to obtain equitable distribution upon external considerations get nowhere.

A "real" job classification in an enterprise does not restrict dealing with people as individuals. Instead, it facilitates dealing with individuals equitably. It enables us to *reach or find* the individual—to specify and evaluate his job so that we may assign to him the particular rate of compensation which his individual proficiency merits within the range related to the status of his job.

Payroll administration, therefore, requires much more refinement in classification than is common in the ordinary course of industrial and business activity in order to avoid the pitfalls mentioned above. Terms must be defined, standards must be set and usage must be held to them. This is done by job specification, organization charting, grade designation for job evaluation, the definition of functional classes and subclasses for functional classification, coordination of compensation standards and the enforcement of procedures.

A *composite tabulation* of functional and graded classifications of positions and compensation standards may be set up by defining the functional classes and listing the positions within each functional class with their grade designations and pay rate ranges, according to the following illustrations. This may be set up for the organization as a whole or by departments, separately, so that departmental officers may have their classifications separately. The following tabulation is illustrative only but it is adequate to show how a tabulation can be made to combine any functional and graded classification that may be required. A complete classification for payroll administration includes the organization chart, which classifies and allocates the positions by subdivisions of organization; the chart of service grades and rate ranges, which coordinates the grades and rate ranges, Figure 9; the composite tabulation of functional and graded classifications and rate ranges, as follows; and the job specifications, which classify positions essentially alike by the same name and description. A complete classification compiled by departments is essential for distribution to departmental officers.

#### FUNCTIONAL AND GRADED CLASSIFICATION OF POSITIONS

##### A AUDITING AND FINANCE CLASS:

With administrative authority, advisory authority, or under direction, examining into and reporting on the correctness and propriety of current payments in which the company is either

debtor or creditor; analyzing and interpreting evidence of financial transactions; deciding on and reporting on the accuracy and significance of financial records and accounts and the accuracy of claims; devising, installing, and supervising financial procedure and methods; performing bookkeeping work prescribed in systems installed; extending credit; making collections and disbursements.

#### A-1. Accountant Subclass:

Obtaining, analyzing, and interpreting evidence of financial transactions; deciding and reporting on the accuracy and significance of financial records, accounts and the accuracy of claims; devising, installing, and supervising financial systems and the bookkeeping prescribed in the systems installed.

Title	Service Grade	Rate Range
Senior Accountant .....	3A	280-400
Cost Accountant .....	3A	280-400
Accountant .....	3C	225-325
Junior Accountant .....	4A	180-265

#### A-2. Auditor Subclass:

Examining into and reporting on the correctness and propriety of current payments from the treasury of the company involving determinations as to the legal validity of claims against or in favor of the company as a whole and as to its separate activities; organization and administration of general auditing and accounting procedure.

Title	Service Grade	Rate Range
Controller .....	2A	890-1175
General Auditor .....	2E	575- 785
Auditor .....	2I	350- 500

#### A-3. Bookkeeper Subclass:

Performing work involving double entry bookkeeping or computing, journalizing, posting, tabulating, and compiling data involved in bookkeeping procedure.

Title	Service Grade	Rate Range
General Bookkeeper .....	4B	160-235
Bookkeeper .....	4C	140-210
Assistant Bookkeeper .....	5A	110-165

*A-4. Credits and Collections Subclass:*

Obtaining evidence of the financial standing of prospective customers for the extension of credit; receiving and accounting for money received for service and collection of overdue accounts; performance of incidental clerical work and administration of these activities

Title	Service Grade	Rate Range
Credit Manager .....	3A	280-400
Supervisor of Collections .....	4A	180-265
Credit Man . . . . .	4B	160-235
Collector . . . . .	5B	95-145
Chief Cashier .....	4A	180-265
Cashier .....	4B	160-235
Assistant Cashier .....	5A	110-165

*B. CLERICAL CLASS:*

Performance of or supervision of operations in routine office practice not specifically outlined by the definitions of other classes.

*B-1. Clerk Subclass:*

Performance of or supervision of the work of positions within the Clerical Class not specifically outlined by the definitions within this class.

Title	Service Grade	Rate Range
Chief Clerk A .....	3D	200-295
Chief Clerk B .....	4A	180-265
Senior Clerk A .....	4B	160-235
Senior Clerk B .....	4C	140-210
Clerk A .....	5A	110-165
Clerk B .....	6A	80-130
Assistant Clerk .....	7A	60-100
Junior Clerk .....	8	40-75
Confidential Secretary .....	4A	180-265
Secretarial Assistant .....	4C	140-210
Librarian . . . . .	4A	180-265

*B-2. Stenographer and Typist Subclass:*

Making and reading stenographic notes, typing from stenographic notes or other copy and incidental clerical work.



Title	Service Grade	Rate Range
Senior Stenographer .....	5A	110-165
Stenographer .....	6A	80-130
Junior Stenographer .....	7A	60-100
Senior Typist .....	6A	80-130
Typist .....	7A	60-100

### B-3. *Storekeeper Subclass:*

Receiving, inspecting, classifying, storing, issuing on requisitions, accounting for and maintaining stocks of supplies, materials and equipment according to prescribed methods, or supervision of this work.

Title	Service Grade	Rate Range
Storekeeper .....	4A	180-265
Assistant Storekeeper .....	4B	160-235
Toolkeeper .....	5B	95-145
Stockman .....	6B	70-115

### B-4. *Telephone Operator Subclass:*

Operating telephone switchboards and performing incidental clerical work or supervising this work.

Title	Service Grade	Rate Range
Chief Telephone Operator.....	6A	80-130
Telephone Operator .....	7A	60-100

## C. DESIGNER AND ESTIMATOR CLASS:

Making studies, investigations, calculations, and cost estimates, developing designs and specifications and making the working drawings for construction work.

### C-1. *Designer and Draftsman Subclass:*

Making studies and investigations, developing designs and specifications and making drawings for construction work.

Title	Service Grade	Rate Range
Chief Designer .....	3A	280-400
Senior Designer .....	3C	225-325
Designer .....	4A	180-265
Assistant Designer .....	4C	140-210
Junior Designer .....	5A	110-165
Senior Draftsman .....	5B	95-145
Draftsman .....	6A	80-130
Junior Draftsman .....	6B	70-115
Tracer .....	7A	60-100
Junior Tracer .....	8	40- 75

*C-2 Estimator Subclass:*

Making analyses of costs of construction work proposed and preparing estimates, construction orders, etc.

Title	Service Grade	Rate Range
Superintendent—Estimating Branch .....	3A	280-400
Senior Estimator . . . . .	3C	225-325
Estimator . . . . .	4A	180-265

*D. MECHANICAL CLASS:*

Performing or supervising operating practice in mechanical operations and manual labor, specialized and unspecialized.

*D-1 Boiler Operating Subclass:*

Operation of boilers and auxiliary plant equipment and the routine care and maintenance of this equipment.

Title	Service Grade	Rate Range
Boiler Engineer .....	4A	180-265
Assistant Boiler Engineer.....	4C	140-210
Boiler Operator . . . . .	5A	110-165
Pumpman . . . . .	5B	95-145
Stoker Operator .....	6A	80-130
Boiler Cleaner . . . . .	6B	70-115
Head Ashman .. . . .	6B	70-115
Ashman . . . . .	7A	60-100

*D-2. General Laborer Subclass*

Performance in manual work of any kind not of a highly specialized character or supervision of this work.

Title	Service Grade	Rate Range
Gang Foreman .. . . .	5A	110-165
Special Laborer .....	6B	70-115
Laborer . . . . .	7A	60-100
Coal Passer . . . . .	7A	60-100
Packer .....	6B	70-115
Shop Boy . . . . .	8	40- 75

*D-3. Miscellaneous Trades Subclass:*

Performance in mechanical operations of a highly specialized character, not specifically included within other classes, or its supervision.

Title	Service Grade	Rate Range
Blacksmith .....	4C	140-210
Blacksmith's Helper .....	6A	80-130
Carpenter .....	4C	140-210
Carpenter's Helper .....	6A	80-130
Electrician .....	4C	140-210
Shop Foreman .....	4A	180-265
Machinist 1st Class.....	4A	180-265
Machinist 2nd Class.....	4C	140-210
Bench Hand .....	5A	110-165
Machinist's Helper .....	6A	80-130

#### D-4. *Prime Mover Operating Subclass:*

Operation of prime movers and auxiliary prime mover plant equipment and the routine care and maintenance of this equipment, or supervision of this work.

Title	Service Grade	Rate Range
Running Engineer .....	4A	180-265
Assistant Running Engineer.....	4C	140-210
Oiler .....	5B	95-145

## CHAPTER 7

### ADMINISTRATIVE PROCEDURES AND RECORDS

"How does it work?" is the question we hear about every plan and method. It may be rational and adequate in every aspect but a game does not play itself. Nor does a machine run alone. Whatever may be the merits of a means to an end, it works very much as we work it. The thing in itself must be adequate for the objectives but those who use it must exercise competency. So it is with the procedures in payroll administration which have already been outlined as well as with those which are incidental to them.

**Centralization vs. Decentralization.**—One of the chief difficulties in any line of endeavor is to have responsibility for a program without authority or support sufficient to execute it. In payroll administration as in other lines of general administration this difficulty arises in connection with the problem of centralization versus decentralization in an organization. There must be a *balance* between the two forces if the whole is to function smoothly. Too much of either causes disorder. Departmental officers with unbridled power will do as they please and go in different directions so that no general policy can be developed and carried out. This situation is too common to require elaboration. Conversely, a central officer is too "far away" to know well and be well known by the individuals remotely situated from him. He cannot really be "lord" of all he surveys. No human mind can sense every local situation and make all the decisions.

A certain amount of central control therefore is necessary without going too far. Maintenance of standards is not all

missionary work and selling. A considerable amount of *control* must be exercised if a policy is to be carried out. The policy may be conceived by the chief executive himself or, as it usually is, by administrative subordinates and "sold" or promoted until it achieves executive recognition and support. With this much accomplished and the preliminary surveys and plans made, in order to carry on the administrative work, an *enabling order* in some form must be issued by the authority of the chief executive.

**The Enabling Order.**—In the enabling order for payroll administration it is necessary to declare that a plan of systematic payroll distribution has been established, set forth the salient features of the plan and policy which supports it, designate the administrative officer in charge, and set forth pertinent regulations. The order should stipulate specifically that:

1. All NAMES upon the payroll be entered with correct job titles or designations of work being done by the individuals according to job specifications as certified by the respective departmental employing officers and approved by the officer in charge of payroll administration. Deliberate misstatement should be condemned as falsification.

2. All POSITIONS be evaluated and compensation rates limited to ranges established for jobs according to their evaluations, stating the evaluation scheme and the established rate ranges and that the evaluations shall be made by departmental officers and the officer in charge of payroll administration in concurrence.

3. ORGANIZATION CHARTS be maintained for the various departments, designating all divisions, subdivisions, and positions in each with lines of authority and responsibility; that designations of departments and subdivisions shall conform to a terminology such as the following:

Department  
Division  
Section  
Branch  
Unit  
Group

(Other terms, of course, may be substituted for these given.)

Moreover, that perspective shall be shown by representing subdivisions in their respective levels on the charts. The level of each subdivision should be designated according to the highest series of service grades which includes the grade of its administrative position in the following arrangement, unless superseded by its superior administrative position, in which case it must be designated lower:

Department, 2A—2C  
Division, 2B—2D  
Section, 2C—3A  
Branch 2E—4A  
Unit, 3B—5A  
Group, 4A—6A

(This arrangement is not absolute and may be varied to some extent.)

Titles of administrative positions should be required to conform to grade order by a scheme such as the following:

Subdivisions	Service Grades of Administrative Positions	Administrative Positions
Department	2A—2C	} } } Manager
Division	2B—2D	
Section	2C—3A	
Branch	2E—4A	} } Director Superintendent
Unit	3B—5A	
Group	4A—6A	Supervisor Foreman

(This procedure prevents minor positions being assigned titles appropriate only to higher positions, and vice versa, and minor subdivisions of the organization accordingly would not be designated as of equal status with major subdivisions.)

The charts should be uniform in style, drawn as directed by the officer in charge of payroll administration and approved by the officers in charge of respective departments.

4. A CONFERENCE COMMITTEE for payroll administration consisting of the Vice Presidents or other officers designated by the chief executive, and the officer in charge of payroll administration acting as Chairman shall serve to consider questions of policy and administration presented by any of its members and make decisions not inconsistent with this and other executive orders. The Committee should meet once each month or more frequently, as it may decide. (This Committee, obviously, may be one of wider jurisdiction in the field of labor relations.)

5. Complete CLASSIFICATIONS OF POSITIONS, functional and graded, for all departments shall be compiled as directed by the officer in charge of payroll administration and that he shall issue to the administrative officer of each major subdivision copies of the "Classification of Positions" pertaining to his subdivision as required. The classification should include the organization chart, the functional and graded classifications, the compensation ranges, and the job specifications.

6. COMPENSATION may be rated by the month, week, hour, piece rate, or commission, as required by conditions, at the discretion of departmental officers with the concurrence of the officer in charge of payroll administration and the Conference Committee but, regardless of the basis of rating, income for full time work averaged for periods of six months shall be governed by the minimum and maximum standards established for rating on the monthly basis. Conversion from hourly to monthly basis and the reverse should be stipulated to be upon a standard number of hours per week (see Table III).

7. RECORDS OF PERSONS EMPLOYED shall be initiated by employing officers in respective departments using "Employee's Service Record" blanks, Figure 10, in triplicate; that the copies





shall be sent to the officer in charge of payroll administration who will inspect them as to propriety of selection of individuals according to established employment procedures and as to the correctness and propriety of the entries according to the "Classification of Positions," rate, budget limitations and general regulations, and make adjustments, if necessary.

It should be stipulated that, when approved, he shall certify the copies, file the original copy as a record of the employee, forward the duplicate copy to the payroll office for payroll entries, and return the triplicate copy to the employing officer; and that whenever a change in position or rate of compensation is proposed this procedure is to be repeated but the new entries transcribed in the central office to the original record sheet in order to compile a continuous record or history of the service of the employee. If the employees' service records are numbered serially by departments and filed accordingly, reference to them by departments can readily be made. For many reasons this is an important stipulation for procedure.

8. In every subdivision of the organization, prior to the first of each year, a BUDGETARY ESTIMATE of the personnel for the coming year and income available for compensation shall be prepared; that essential information shall be furnished by executives as to expected income availability; and that forms and instructions for the preparation of these estimates shall be prepared and issued by the officer in charge of payroll administration, and the estimates delivered to him at or before the first of the year.

It should be stipulated that all additions to the payroll and increases in rates of compensation shall conform to the limits of the budget as far as possible and that employing officers shall be informed when their limits have been reached.

9. INCREASES in monthly rates shall be granted in not less than such time as three months from the date of the last rate to

TABLE III. RATE EQUIVALENTS—HOURLY AND MONTHLY

40 Hours per Week

$$\text{Hourly Rate} = \frac{\text{Monthly Rate}}{\text{Hrs per Wk.} \times 4\frac{1}{2}}$$

Hourly Rate	Monthly Equiv	Hourly Rate	Monthly Equiv	Hourly Rate	Monthly Equiv.	Hourly Rate	Monthly Equiv.	Hourly Rate	Monthly Equiv
37½	65 00	61½	106 59	85½	148 10	1 00½	189 79	1 33	230 52
38	65 86	62	107 46	86	149 06	1 10	190 65	1 33½	231 38
38½	66 71	62½	108 31	86½	149 92	1 10½	191 52	1 34	232 25
39	67 59	63	109 19	87	150 79	1 11	192 39	1 34½	233 12
39½	68 46	63½	110 06	87½	151 66	1 11½	193 25	1 35	233 98
40	69 33	64	110 92	88	152 52	1 12	194 12	1 35½	234 85
40½	70 19	64½	111 79	88½	153 39	1 12½	194 99	1 36	235 72
41	71 06	65	112 66	89	154 25	1 13	195 85	1 36½	236 58
41½	71 93	65½	113 52	89½	155 12	1 13½	196 72	1 37	237 45
42	72 79	66	114 39	90	155 99	1 14	197 58	1 37½	238 32
42½	73 66	66½	115 26	90½	156 85	1 14½	198 45	1 38	239 18
43	74 53	67	116 12	91	157 72	1 15	199 32	1 38½	240 05
43½	75 39	67½	116 99	91½	158 59	1 15½	200 18	1 39	240 91
44	76 26	68	117 86	92	159 45	1 16	201 05	1 39½	241 78
44½	77 13	68½	118 72	92½	160 32	1 16½	201 92	1 40	242 65
45	77 99	69	119 59	93	161 19	1 17	202 78	1 40½	243 51
45½	78 86	69½	120 46	93½	162 05	1 17½	203 65	1 41	244 38
46	79 73	70	121 32	94	162 92	1 18	204 52	1 41½	245 25
46½	80 59	70½	122 19	94½	163 79	1 18½	205 38	1 42	246 11
47	81 46	71	123 06	95	164 65	1 19	206 25	1 42½	246 98
47½	82 33	71½	123 92	95½	165 52	1 19½	207 12	1 43	247 85
48	83 19	72	124 79	96	166 39	1 20	207 98	1 43½	248 71
48½	84 06	72½	125 66	96½	167 25	1 20½	208 85	1 44	249 58
49	84 93	73	126 52	97	168 12	1 21	209 72	1 44½	250 45
49½	85 79	73½	127 39	97½	168 99	1 21½	210 58	1 45	251 31
50	86 66	74	128 26	98	169 85	1 22	211 45	1 45½	252 18
50½	87 53	74½	129 12	98½	170 72	1 22½	212 32	1 46	253 05
51	88 39	75	129 99	99	171 59	1 23	213 18	1 46½	253 91
51½	89 26	75½	130 86	99½	172 45	1 23½	214 05	1 47	254 78
52	90 13	76	131 72	1 00	173 32	1 24	214 92	1 47½	255 65
52½	90 99	76½	132 59	1 00½	174 19	1 24½	215 78	1 48	256 51
53	91 86	77	133 46	1 01	175 05	1 25	216 65	1 48½	257 38
53½	92 71	77½	134 32	1 01½	175 92	1 25½	217 52	1 49	258 25
54	93 59	78	135 19	1 02	176 79	1 26	218 38	1 49½	259 11
54½	94 46	78½	136 06	1 02½	177 65	1 26½	219 25	1 50	259 98
55	95 33	79	136 92	1 03	178 52	1 27	220 12	1 50½	260 85
55½	96 19	79½	137 79	1 03½	179 39	1 27½	220 98	1 51	261 71
56	97 06	80	138 66	1 04	180 25	1 28	221 85	1 51½	262 58
56½	97 93	80½	139 52	1 04½	181 12	1 28½	222 72	1 52	263 45
57	98 79	81	140 39	1 05	181 99	1 29	223 58	1 52½	264 31
57½	99 66	81½	141 26	1 05½	182 85	1 29½	224 45	1 53	265 18
58	100 53	82	142 12	1 06	183 72	1 30	225 32	1 53½	266 05
58½	101 39	82½	142 99	1 06½	184 59	1 30½	226 18	1 54	266 91
59	102 26	83	143 86	1 07	185 45	1 31	227 05	1 54½	267 78
59½	103 13	83½	144 72	1 07½	186 32	1 31½	227 92	1 55	268 65
60	103 99	84	145 59	1 08	187 19	1 32	228 78	1 55½	269 51
60½	104 86	84½	146 46	1 08½	188 05	1 32½	229 65	1 56	270 38
61	105 73	85	147 32	1 09	188 92				

persons in positions in grade 8, six months to those in grades 6 and 7 and one year for those in higher positions; that the amount of increase at any one time shall be limited to such an amount as \$10 per month for earnings up to and including \$100 per month; and that for higher earnings the amount shall be limited to such an amount as 10% of the rate per month.

10. PAYROLL REVIEWS shall be scheduled by the officer in charge of payroll administration semi-annually (or at other intervals) for each subdivision of the organization and that they be organized and conducted essentially as follows:

For each subdivision a review committee should be appointed including the supervisors of training as well as those who directly observe the individuals in their work. Prior to the meeting of the Committee, the officer in charge of payroll administration should ask the members to rate the individuals of their subdivision on blanks which he should provide for the purpose.

It is generally agreed that no single form can be satisfactorily adapted to rate persons in all types of jobs and that rating scales are subject to various errors which limit their value. Nevertheless, with judicious use, they are a practical aid in getting estimates of the work of individuals. Figures 11, 12, and 13, following, are fair samples of forms for three different types of jobs. For other types, forms should be adapted in a similar manner.<sup>1</sup>

At the meeting of the Committee, the officer in charge of payroll administration should preside. He should present the payroll for the subdivision and call for the reports on each person enrolled, leading the discussion in each case and, for each name, enter the concerted judgment and decision as to any action to be taken. This should be provided for as shown on Figure 14. Data from the records of the individuals should be supplied on this form prior to the meeting as provided for on the form.

<sup>1</sup> For further study of this subject, see M. S. Viteles, *Industrial Psychology*, pp. 206-212.

Person Being Rated Name.....	.....	Division	.....	Date rating was made	Position	.....					
Name of person doing rating	Job of person doing rating	1	2	3	4	5	6	7	8	9	10
CULNG	Consider the amount of work accomplished, the promptness with which the work is done, and its quality	1	2	3	4	5	6	7	8	9	10
		Unsatisfactory accomplishment	Basically meets the standard	Satisfactory work	Very satisfactory accomplishment	An unusually good worker					
INDUS	Consider application to the duties of the job day in and day out	10	9	8	7	6	5	4	3	2	1
		Always on his toes	Usually alert	Modestly industrious	Requires considerable urging	Lazy					
APPAR	Consider personal cleanliness and neatness of clothing	1	2	3	4	5	6	7	8	9	10
		Neatly	Careless	Generally satisfactory	Well groomed	Exceptionally satisfactory					
COORD	Consider his success in getting along with fellow workers and with supervisors, and in tying in with other departments.	10	9	8	7	6	5	4	3	2	1
		Extraordinarily cooperative	Actively tries to keep work moving smoothly	Usually "goes along"	Inconvenient to handle	Obstructionist					
INITIATIVE	Consider ability to make practical suggestions for doing things in new and better ways	1	2	3	4	5	6	7	8	9	10
		Needs constant supervision of details	Routine worker	Occasionally makes good suggestion	Resourceful	Very original					

	10	9	8	7	6	5	4	3	2	1
<b>PUBLIC RELATIONS</b>	<p>Consider attitude and effort in creating better feelings on the part of customers toward the company.</p>									
	An unusual need in furthering good public relations	Actively builds up good-will	Generally anxious to maintain good relations	Indifferent to public relations	Creation of difficulties with customers or public					
<b>LOYALTY</b>	<p>Consider participation in Company activities; feelings toward the organization and his interest in its welfare.</p>									
	Troublemaker	Questionable loyalty	Dependable	Active in furthering the broader interests of the Company	A real force in building morale					
<b>CAPACITY FOR GROWTH</b>	<p>Consider the capacity for further development; the employee's possibilities for the future.</p>									
	Great latent possibilities	Shows much promise	Slow development possible	Further growth doubtful	Has reached his (her) limit					
<b>SUPERVISORY ABILITY</b>	<p>For Supervisory Employees Only:</p> <p>Consider ability to coordinate and supervise the work of employees and to lead and inspire them toward greater effort and loyalty.</p>									
	A poor leader	Slightly lacking in leadership ability	Generally effective supervision	Very good in handling supervisory problems	Excellent and inspiring leadership					
<b>HEALTH</b>	<p>1. How do you rate this employee in terms of his general value as a member of your group? Extremely satisfactory      Satisfactory      Barely satisfactory      A Liability</p> <p>2. List below specific talents or defects, and activities on or off the job which have a bearing on this employee's present performance or advancement with the Company:—</p>									
	<p>Remarks: .....</p>									

Figure 11. Performance Rating Scale. (After Viteles.)

# STATION PERSONNEL PERFORMANCE REPORT (After Viteles)

Name ..... Date .....  
 Position ..... Substation .....  
 Employee Rated by .....

*Instructions for making out this report* Rate this man on the basis of the actual work he has been doing since the date of the last report. If, before attempting to report on him it is necessary to have clearly in mind the exact qualities on which he is being rated. For this information read the definitions very carefully. In each quality compare the man with other men and operators who have worked under you. Place a check on the line directly above the term which best describes the man's standing on the quality. If you think that he rates somewhere between the two terms you may place a check mark between them.

## 1. GENERAL OPERATING INFORMATION

Consider the man's knowledge of the substation including wiring diagrams, the nature and purpose of the equipment, and other information given him found in the Operating Handbook, Circular Letters, etc.

Unusually detailed	Well informed	Fairly complete	Messy	Altogether inadequate
1	2	3	4	5

## 2. ROUTINE OPERATING PROCEDURE

Consider the man's reliability and thoroughness in making routine readings and observations.

Makes accurate and complete readings and observations	Seldom makes errors and omissions in readings and observations	Often makes errors and omissions in readings and observations	Observations and readings must usually be checked	Altogether untrustworthy
1	2	3	4	5

## 3. ROUTINE SWITCHING AND BLOCKING

Consider the man's ability, accuracy and carefulness in doing assigned routine switching and blocking.

Does the job very accurately and carefully	Can generally be depended upon	Occasionally careless and inaccurate	Makes errors Very careless Undependable
1	2	3	4

## 4. ROUTINE CARE AND MAINTENANCE OF EQUIPMENT

Consider how well the man takes care of repairs, and adjusts the equipment.

Makes an excellent job	Makes a satisfactory job	Work barely passes inspection	Usually makes a poor job	Always makes a poor job
1	2	3	4	5

5. INTERRUPTIONS, EQUIPMENT FAILURES AND UNUSUAL OCCURRENCES: Consider the man's habits in reporting unusual conditions and his ability to handle minor troubles or unusual occurrences in the substation.	1 Very effective in all new or unusual circumstances	2 Usually reports unusual occurrences & usually able to handle most unusual circumstances with out difficulty	3 Occasionally neglects to report trouble. Is able to get by	4 Neglectful in reporting trouble & becomes "lost" when the unusual happens, but manages to handle the situation with help	5 Generally irresponsible, loses his head completely. Unable to handle unusual situations
6. ROUTINE CARE OF BUILDING AND PROPERTY: Consider how well the man performs his duties in exercising routine care of the building and property.	1 Always does his job very well	2 Usually does his work O. K.	3 Just gets by	4 Often has to do the work over again	5 Always makes an unsatisfactory job
7. COOPERATIVENESS: Consider the man's success in cooperating with the other members of the substation force, i.e. in working smoothly with the others.	1 Actively seeks to cooperate	2 Usually willing to do as the rest of the men do	3 Occasionally cooperates	4 Difficult to get any cooperation	5 Not at all cooperative
8. INDUSTRY: Consider the man's application to the duties of the job, day in and day out.	1 On the job all the time	2 Usually on the job	3 Just gets his work done	4 Has to be continually prodded	5 Neglects work constantly
9. ADHERENCE TO GENERAL REGULATIONS: Consider the man's adherence in regulations covering conduct in the station, uniform, reporting, and other general Company rules.	1 Excellent	2 Generally satisfactory	3 Usually lax	4 Negligent	5 Negligent

10. REMARKS: (Place here any additional comments about the man's progress that you care to make.)

Figure 12. Station Personnel Performance Report. (After Viteles.)

Name.....	Date.....	Department.....	Name of Ratee.....	Position.....
<p><b>INSTRUCTIONS FOR MAKING OUT THIS REPORT</b>—Please rate the above-named employee on the traits listed in low Before attempting to report on him, it is necessary to have clearly in mind the exact qualities on which he is being rated. For this information read the definitions very carefully. In each quality compare the employee with other men who have worked under you. Place a check on the line directly above the term which best describes the man's standing on the quality. If you think that he rates somewhere between the two terms, you may place a check mark between them.</p>				
<p><b>1 INDUSTRY</b> Consider how the employee applies himself to his tasks, amount he accomplishes, etc.</p>				
<p><b>2 ABILITY TO LEARN</b> Consider the employee's ease of learning new methods, special tasks, etc.</p>				
<p><b>3 COOPERATIVENESS</b> Consider the employee's success in securing the cooperation of his superiors and that of his fellow employees, i. e., in working smoothly with other employees.</p>				
<p><b>4 ABILITY TO DIRECT WORK OF OTHERS</b> Consider the employee's ability to direct and organize work.</p>				
<p><b>5 JUDGMENT</b> Consider the employee's ability to grasp a situation and draw the correct conclusions.</p>				
<p><b>6 INITIATIVE</b> Consider the readiness of the employee to go ahead with work; to find ways of getting work done when not supplied with definite orders, etc.</p>				
<p><b>7. DEPENDABILITY</b> Consider how well he can be relied upon to do his work satisfactorily without supervision.</p>				
<p><b>8 WILLINGNESS TO ASK FOR INFORMATION WHILE IN DOUBT</b> Consider the employee's ease or shyness in seeking the advice of his superiors in matters of company policy, etc.</p>				
<p><b>9. JUDGMENT OF MEN</b> Consider the employee's ability to gauge the abilities and personal qualifications of subordinates.</p>				
<p><b>10 SELF-RELIANCE</b> Consider the employee's willingness to undertake a task and to accept responsibility.</p>				
<p><b>REMARKS.</b> (Place here any additional comments you might choose to make.)</p>				

Figure 13. Graphic Rating Scale for Office Supervisory Employees. (After Viteles.)



[illegible]

Figure 14. Payroll Review Chart

After the meeting, the officer in charge of payroll administration should collect the rating reports of the individuals considered and file them with their service records. He should then hold the record of the review for follow-up of the decisions entered concerning the individual cases.

The payroll review periodically calls up the case of each individual for consideration and decision not only with respect to payroll adjustment but for the discovery of problem cases and early decision as to termination of service or continuance, promotion, transfer, training, etc.

**The Payroll Budget.**—In making up the general budget from year to year, the program would be very incomplete if it did not include careful estimates of the personnel, salaries and wages. In order that these estimates may be obtained, an accurate survey must be made in each division of work as to the flow of work which can be expected, using all available data. The jobs which must be filled and the numbers of persons needed and their salaries or wages must be determined as fully as possible. It may not be possible to obtain these data with great accuracy because of unknown factors which may enter into the calculations, but it is usually possible to set down *minimum requirements* and designate these in terms of jobs which must be filled. From then on, periodic revisions can be made by comparing the estimated requirements with those which are actual.

It can be stipulated that the minimum number of jobs shall be filled by individuals known to be satisfactory, who shall be designated as "*permanent*" employees. They are individuals who have been adequately trained in their respective positions, and they occupy all of the more important positions. They would be eligible to all services which may be established for the benefit of employees, such as insurance, sick benefits, vacations, pensions, etc. As time goes on they become more and more adapted to the work of the organization and less and less able to apply themselves elsewhere. Thus, they acquire tenure or

the expectancy to continuous employment, in so far as it can be continuous, and in so far as they maintain their proficiencies.

Other employees who may be required may be known as "temporary" employees, and the budget should designate probable requirements as to temporary employees according to such contingencies as it may be possible to anticipate. Temporary employees are limited to short service—six months or less, unless they can be made permanent by filling vacancies caused by turnover or expansion. They constitute the *additional* persons necessary from time to time as the volume of work temporarily increases above the minimum. They can occupy only the minor positions requiring little training or they can function in standardized operations for which they have been trained elsewhere and they have no expectancy or tenure. They, therefore, are not eligible to the special services created for permanent employees. Temporary employees make up the elastic portion of the force for expansion and contraction, but their numbers should be so limited that their ratio to permanent employees is not over one to ten, if possible, in order not to create a general condition of insecurity.

In the preparation of the budget each year, in each division of work, consideration should be given to the *turnover* which may be expected, caused by advanced age, physical condition, or by terminations for other reasons. Turnover figures should be kept currently under the direction of the officer in charge of payroll administration for all divisions of work and kinds of jobs. They should be supplied to departmental managers, since turnover conditions affect the distribution of income to salaries and wages and the total number of persons who will be employed during the year.

The division of the budget which relates to salaries and wages may be known as the "*Payroll Budget*." In this, the allowances should be considered as of two portions—one consisting of the *rates* of individuals already employed or to be em-

**EMPLOYEE BUDGET ESTIMATE**

DEPARTMENT \_\_\_\_\_  
SUBDIVISION \_\_\_\_\_

EMPLOYEES INCLUDED IN 19\_\_ DEPARTMENTAL BUDGET ESTIMATE

RATE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC.	YEAR
1 NUMBER OF EMPLOYEES AS OF 1/1													
2 EMPLOYEES TO BE RELEASED													
3 ADDITIONAL PERMANENT EMPLOYEES													
4 ADDITIONAL TEMPORARY EMPLOYEES													
TOTAL EMPLOYEES													

DATE \_\_\_\_\_

PREPARED BY \_\_\_\_\_

APPROVED BY \_\_\_\_\_

NOTE: LIST JOB TITLES OF EMPLOYEES TO BE RELEASED AND ADDITIONAL EMPLOYEES REQUIRED, USING ONE LINE FOR EACH TITLE AND SALARY RATE. SEND ONE COPY TO THE DIRECTOR OF EMPLOYMENT

Figure 15. Employee Budget Estimate

ACCOUNT NO. \_\_\_\_\_

SUBDIVISION \_\_\_\_\_

## PAYROLL BUDGET CONTROL 19\_\_\_\_

ESTIMATED BASE, JAN. 1, 19\_\_\_\_

ACTUAL BASE, JAN. 1, 19\_\_\_\_

BALANCE \_\_\_\_\_

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
BUDGET												
ACTUAL												
OVER OR UNDER												

## SALARY INCREASES

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
BALANCE PRE. MO.												
APPROPRIATION												
TOTAL												
APPROVED DURING MONTH												
BALANCE												

## ADDITIONAL PERSONNEL (PERMANENT)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
BALANCE PRE. MO.												
APPROPRIATION												
TOTAL												
SALARIES OF ADDITIONAL PERSONNEL												
BALANCE												

## ADDITIONAL PERSONNEL (TEMPORARY)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
APPROPRIATION OR BALANCE PRE. MO.												
SALARIES FOR MO.												
BALANCE												

## PERSONNEL CHANGES (TERMINATIONS OR REPLACEMENTS)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
BALANCE PRE. MO.												
NET CHANGE OF TERM. & REPLACEMENT												
TRANSFER TO SALARY INC. AVAIL.												
TRANSFER TO ADDITIONAL PERSONNEL AVAIL.												
BALANCE												

Figure 16. Payroll Budget Control

ployed and the other of *increases* in these rates for particular individuals which it may be necessary or possible to grant

A copy of the payroll budget for each subdivision of the organization should be obtained by the officer in charge of payroll administration. This budget should then be credited or debited for every payroll change which is approved, and no additions should be approved beyond the limits of the budget except by executive approval (see Figures 15, 16, and 17).

[illegible]

Figure 17 Detail Sheet of Payroll Budget Control

**Transfers and Promotions.**—In the procedure for employment, ample provision must be made to *transfer* employees from one job to another as work in one line becomes less active than in another. When an opening occurs, before considering a new applicant for employment, a search should be made to find some one available for transfer who can do the work, and likewise, when some one becomes superfluous, a search should be made to find an opening which he can fill or an immediate prospect of one.

The payroll budgets of the various departments should be studied and a program worked out for the changes contemplated, as far as possible. Reports should be obtained from employing officers, as far in advance as possible, whenever a person

is available for elimination or transfer and whenever additional persons are required in any of the divisions of work.

The practice of filling jobs by transfer, as much as possible, results not only in saving individuals from losing their employment but also, in many instances, it accomplishes *promotions* with an improvement in morale. One opening may lead to the advancement of more than one person by stepping several persons upward in succession.

When a vacancy occurs, particularly in a highly skilled position, it is not always easy to find just the right person who is available and qualified for it. Understudies, of course, should be in training for every job, and good management will provide for them in every division of activity, but frequently situations arise for which no one is obviously at hand.

The job classification should be of assistance in these regards in setting forth the similarities of jobs. Positions which are similar and have similar mental and physical requirements present possible candidates for transfers and promotions.

Various methods of cataloging individuals by qualifications are in use for making selections for transfers, but they are usually not comprehensive and qualified persons are easily overlooked in a search for candidates. A *sorting machine* can be used to advantage in this connection as well as for quickly assembling information for other purposes. A card is punched for each employee for a large number of facts, including age, length of service, kind of position, grade of position, location of work, regional residence, salary or wage, education, special training, special interests, test scores, prize awards, leadership, etc. (see Figure 18). A *data sheet* (see Figure 19) for each individual is used for coding the items. From the data sheet, which is kept with the employee's service record in a folder, the card is punched for the employee. The cards are filed together in payroll number order, which groups them by departments and subdivisions. Cards for any department or subdivision, or for





# EMPLOYMENT DIVISION

## DATA SHEET

### FOR SORTING MACHINE CARD

CODE	NAME	SUBDIVISION
.....	Payroll Number—1 to 70,000	
.....	Date of Birth	
.....	Date of Employment	
.....	Permanent (0) Temporary (1)	
.....	Foreign Born (2) Naturalized (3) Former Employee Rehired (4)	
.....	Male (5) Female (6)	
.....	White (7) Colored (8)	
.....	Single (0) Married (1) Widowed (2)	
.....	Children (3) Other Dependents (4)	
.....	Home—Own (7) Rent (8) Board (9)	
.....	Reside—Philadelphia Division (1) Eastern Division (2) Schuylkill Division (3) Main Line Division (4) Delaware Division (5) Penna. Outside P. E. Area (6) New Jersey (7) Maryland (8) Delaware (9)	
.....	Position	
.....	Class of Position	
.....	Grade of Position	
.....	Location	
.....	Physical Examination A (1) B (2) C (3)	
.....	Education—Grade School (1) High School (2) University Commercial (3) College (4) Engineering (5) Graduate (6) Post Graduate (7) Business (8)	
.....	Special Subjects—Chemistry (1) Physics (2) Economics (3) Biology (4) Psychology (5) Education (6) Public Utility (7) Law (8) Art (9) Journalism (10) Sales (11) Advertising (12) Speaking (13)	
.....	Teaching Experience (1) Speaking Experience (2)	
.....	Insurance—Class A (1) B (2) C (3) D (4) E (5) F (6) G (7) H (8) I (9) J (10) K (11)	
.....	Test Battery	
.....	Test Score	
.....	Type of Activity—Sales (1) Research (2) Supervisory (3) Routine (4)	
.....	Employee Rating	
.....	Monthly Salary or Wage	
.....	Date of Rate Increase	
.....	Speak German (1) French (2) Spanish (3) Italian (4) Jewish (5) Russian (6) Polish (7) Other (8)	
.....	Athletics—Baseball (1) Basketball (2) Boating (3) Bowling (4) Boxing (5) Football (6) Golf (7) Riding (8) Swimming (9) Tennis (10) Handball (11)	
.....	Entertainment—Vocal (1) Instrumental (2) Dancing (3) Elocution (4) Acting (5) Acrobatic (6)	
.....	Hobbies—Writing (1) Debating (2) Dramatics (3) Radio, Licensed Opr. (4) Art (5) Photography (6) Flowers (7) Needlework (8) Nature Study (9) Aviation (10) Model Making (11) Scouts (12) Chess (13)	
.....	Prizes Won—Athletics (1) Speaking (2) Writing (3) Suggestions (4)	
.....	25-year Club (1)	
.....	Employee Association (2) Athletic Association (3)	
.....	Military Organization—Army (1) Navy (2) Marines (3)	
.....	War Service (9)	
.....	Group Leader—Sales Campaigns (1) Company Educational (2) Company Organizations (3)	
.....	Education Refund (9)	
.....	Company Training Courses	
.....	Subdivision (if not indicated by payroll number)	
.....	Age at Employment	
.....	Monthly Earnings (Monthly Equivalent of Hourly-Rated Employees)	
.....	Date and Reason for Termination	
.....		
.....		
.....		

Figure 19. Employment Division Data Sheet

the organization as a whole, can then be sorted and counted with respect to any of the data. This arrangement is very helpful in compiling statistical data and figures called for on short notice, particularly as to rates, dates, numbers of persons, amounts, etc.

With regard to transfers and promotions, the selection of possible candidates is very much facilitated by sorting out the cards of persons in jobs which are similar in character and of other persons who may have required qualifications indicated by items coded on the data sheet. In this way, the possibility of missing worthy individuals is reduced to a minimum. The sifting process finally yields a comparatively small number of individuals for consideration in making selections. This method of finding candidates should not, of course, eliminate the consideration of candidates who may be personally recommended or found by other means, nor should it be a substitute for judgment in selection. It is a means of bringing up for review numerous individuals who would not otherwise be considered.

**Problems of Procedure.**—In view of the traditions and variations among enterprises in industry it is not to be expected that such a policy and plan of distribution as we have been discussing can become established and carried out with no resistance although it may have the sanction of the chief executive. After making the original survey and issuing the enabling order the work of carrying on begins. Although procedures are determined upon and instructions issued, the *good will* of the people throughout the organization must in a large measure be won. Old traditions make it necessary to teach a new language, and concepts of organization principles and human nature are foreign to many types of mind even among persons of education in some fields of thought. The *discussion group* either in a supervisory training or employee representation program is one means of meeting the situation. More than this, the *day-to-day dealings* with employing officers in the immediate problems of

interpretation and decision which they present provide opportunity for disseminating information and harmonizing different points of view.

**Personal Prestige.**—The tendency to judge a person's standing by *who he is* rather than by what he does is always strong and sometimes presents problems which no one will dare to face. It means setting aside personal prestige in favor of true evaluation of the functioning of the individual in the organization. Situations of this kind may be expected in any human organization. They are characteristic of human nature. Sometimes organization relations are *not clearly defined*—with the result that jurisdictions are uncertain and pertinent questions cannot be answered. These conditions call for the exercise of diplomacy and good judgment by the officer in charge of payroll administration and may challenge his ability to carry out the mandates assigned to him. If he cannot depend upon higher executive support, he can rely only upon his own resources and do the best he can—for sometimes orders are signed in general which will not be supported in every particular.

**Executives' Salaries.**—It is obvious that only with the support of the highest executive authority can a plan of payroll distribution include executives' salaries. For this reason it is common practice to exclude positions above a certain level from the plan which is authorized for positions below this level. They constitute a small percentage of the whole. The work of executives, however, can be described and evaluated or appraised as to level, like others, if they desire it to be done and will take part in it.

**Abstract Worth.**—In spite of the fact that the principles of job evaluation have been set forth, the question "What is the job worth?" is often asked entirely in the *abstract* as though this question were concerned with a money value dissociated from the interrelations among the jobs themselves and their pro-

ductive effects in the enterprise. The dissociation of ideas which gives rise to such notions frequently presents itself for correction among other things in the course of the day's work.

However, *dual situations* do occur in which the individual is more or less in an independent position as well as in a position within the organization. He may be acting largely as a dealer in the service of the organization, supplying its market and taking his profits as an independent dealer but serving to some extent also in the management of the organization either in an advisory or executive capacity or both. A similar situation may exist with an individual who invents the product or the process of production or creates the character of the service which the organization produces. He may take his profits or royalties as an independent producer and serve also in the management or in a lower level of the work of the organization. The different phases of such a dual situation should be considered *separately*, and the compensation of the individual calculated as arising from the different sources independently if the claims in the case are valid. It is much like the situation of the stockholder who is also an employee.

**Differences Among Organizations.**—Because of differences in character among organizations there are differences in problems of procedure. Some enterprises such as those engaged in building construction projects, but they are not confined to construction industries, are confronted with the necessity of quickly forming an organization to carry out a program of operations, more or less extensive while it lasts, then of disbanding it when the project is completed. Such an organization usually passes through many changes from the inception to the completion of its work and, because of this and its short life, the procedures of payroll administration must be considerably abbreviated in it. Nevertheless, a plan of payroll distribution and orderly procedures can be carried out. Other enterprises such as public utilities, many enterprises engaged in manufacturing and other

types of industry are of a comparatively permanent and stable character. In such enterprises payroll administration has the advantages of time and stability of organization in developing its standards, procedures, and educational programs. Between these two extremes there are many shades of variation among enterprises so that standards and procedures, except for the adherence to basic principles, cannot be *absolute or fixed* the same for all.

**False Designation.**—In day-to-day transactions, the employing officer is often inclined to designate the title of the individual's job according to the rate of pay which he proposes rather than to *correctly designate* the individual by the title established for the job in which he is to serve and offer an appropriate rate. "What's in a name," he thinks, so long as he gets the work done and keeps down the costs. Attitudes of this kind are among the obstacles to harmonious labor relations which payroll administration aims to overcome. It must show that the title of the job, as defined by the job specification, represents a *standard of work* whose attainment by the individual *assures* him a corresponding standard of compensation from the enterprise as a means to lower cost of production than is to be attained by "gyping" the individual via his rate of pay. Here again the officer in charge of payroll administration must be able to prove the meaning of the enabling order. If its executive sponsors fail to stand by it in test cases it proves to be only a gesture and the administrative officer can serve only in an advisory and persuasive capacity or weakened position henceforth. Supervisory persons have been trained under authority and many of them respect little else than its show of power. The officer in charge of payroll administration can show that the enabling order has real meaning and exercise effective control in the labor relations of the enterprise as long as he can properly exercise his governing functions *with respect to the payroll*. He thereby occupies the key position in the work of employment in the organization.

He should comprehend, with the aid of his staff and affiliations, the requirements and participate in or, at least, pass judgment upon the selections and adjustments to meet them. He thus can enforce compliance with the standards established for admissions to and adjustments upon the payroll by specific procedures as previously set forth.

It is not within the scope of this manual to review the various procedures involved in employment work. Payroll administration is our concern. We must realize however that it is a major function in employment work and is facilitated by being closely coordinated with the other functions of this work.

**Remote Control.**—When various parts of an organization are separated from each other by long distances the question arises as to how can payroll administration be carried on. This condition is satisfactorily met in other lines of administrative work and, similarly, it can be met in payroll administration. The policy and plan of distribution, of course, are not affected by the condition. Procedures only are affected and they can be modified according to the circumstances of the case. In any case the officer in charge of administration can exercise general jurisdiction. He can appoint local representatives, train them, establish intercommunication and so carry on all necessary procedures.

**Where To Begin.**—It is sometimes asked, "Where should the work be started—in what department first?" The answer to this question depends upon circumstances. According to the principles which have been stated, payroll administration is a *general function* affecting the organization as a whole. Otherwise different standards will prevail in different departments. If the work is seriously desired in general management, the survey will be made of the entire organization and the procedures initiated for the entire organization at one time. However, under other circumstances, it may be taken up in one de-

partment and, afterwards, extended to others until the entire organization is comprehended.

**Inconsistencies.**—In administrative work in any field we must realize that there are many inconsistencies in the rough and tumble of daily life in business, in the family, in the government, and whatnot. They are often discouraging but they go with human life. We must take some of the bad with the good. These circumstances, however, do not prevent us from thinking and making rational plans to follow as best we can, knowing that every art follows a corresponding science.

# INDEX

- Abilities,
  - in human nature, 63, 64
  - special, 43, 44, 63, 64, 72
- Ability, general, 43, 63
- Abstract, dealing, thinking, 16
- Achievement, degrees of, 62
- Activity,
  - kind, 57
  - level of, 57, 64
  - phases of, 62
- Adaptation to Special Conditions, 45, 46
- Analytical Treatment of Problem, 12
- Announcement for Survey, 29
- Aspects of Jobs, 66
- Authority to Execute, 92, 93
- Bargaining, 25, 26
  - power, 73
- Begin, where to, 118, 119
- Bonus, 78, 81
- Budget, the payroll, 106-110
- Budgeting Income Distribution, 80
- Calculation, mathematical, 69, 70
- Card, sorting machine, 111, 112
- Centralization vs. decentralization, 92, 93
- Charts, organization, maintained, 93
- Class, division, 16
- Class-consciousness, 16, 17
- Classes, social-economic, 15, 16, 17
- Classification,
  - bases, 84
  - complete, 86, 95
  - job, 8, 84-91, 111
  - natural and arbitrary, 84, 85
  - of occupations at large, 85
  - table of, 21
- Classifications, 17
  - composite tabulation, 86-91
  - functional and graded, 84-91
- Collaboration, 25
- Collectivism, 17
- Commission, 78
- Committee,
  - a conference, 95
  - review, 99
- Commodity, labor as, 12
- Company, small vs. large, 6-8
- Comparison, aspects of, 66
- Compensation,
  - how rated, 95
  - prevailing rates of, 72
- Competition, 22
- Conference, 25
  - Committee, 95
  - employee, with managers, 7, 8
- Contract, labor, 10, 12
- Control,
  - centralized, 73
  - must be exercised, 93
  - remote, 118
- Conversion, hourly to monthly rates, 95, 98
- Cooperation, 18, 19
  - in survey, 28
- Coordination, compensation stand-ards, 73
- Corporation, 4
- Cost,
  - of living in rating pay, 81
  - of production, 14, 15, 20, 23
- Curves, rate, 75, 77
- Data Sheet, 111, 113
- Demotion, 72
- Development, aspect of organization, 40
- Differential,
  - between rates, 74
  - rate, percentage, 77
- Differentials in Compensation, 11
- Difficulty, job, 70
- Discussion, group, 114
- Distribution, balanced, 24
- Dual Situations, 116
- Earnings, 14, 15
- Economic Aspect of Labor, 9, 10
- Economies, 20
- Efficiency,
  - of the enterprise, 81
  - productive, 77
- Effort, physical, 70
- Employee, 19, 20
  - permanent, 106, 107
  - temporary, 107



- Employment, 18
  - creating, 15
- Entity,
  - the enterprise, 16, 18
  - the individual, 16
- Equitable Distribution, 26
- Equity, 10
  - in rating, 79
- Estimate,
  - budgetary, personnel, 97
  - of income availability, 97
- Evaluate Participation in Production, 85
- Evaluating the Jobs, 65-72
- Evaluation, job, 57-72
  - common basis, 58
  - defined, 57
- Executive Requirements, 47
- Executives,
  - leaders, 20
  - salaries, 115
- Factors, job, 69
- Fair-mindedness, 11, 12
- False, designation, 117, 118
- Falsification, by misstatement, 93, 117
- Function,
  - aspect of organization, 40
  - class of, 57
  - development of, 65
- Functions, classes of, 21, 64, 65
- "Going Rate," obsolete, 12
- Goodwill, 114
- Gradation,
  - administrative positions, 34
  - equal, 79
  - in work, 8, 11
  - of activity, 58, 60
  - of rates, 73
  - of work, 58, 59, 60
- Grade of Work, 84
- Grades of Activity, 62
- Grades of Service, 63
- Habits, 62, 63
- Hazards, 44
- Hours of Work in Rating Pay, 82, 83
- Human Nature, aspect of labor, 9, 10
- Incentive, 23
- Income, 19
  - availability, 97
  - distribution, 5, 6, 9, 23, 27
  - of the enterprise, 81
  - plan of distribution, 20
- Inconsistencies, 119
- Increases, in rates, 80, 97, 99, 110
- Individual, 17, 22, 85
  - participation, 19, 57
  - rating performance, 99-106
- Individualism, 17
- Industrial Revolution, 3
- Industry, not an entity, 16
- Integration, 18
  - aspect of organization, 40
  - in organization, 64
- Intelligence, general, 43
- Interest, common, 22, 23
- Interpretation, problems of, 114, 115
- Inventory, of the organization, 7
- Job Analysis, 28
  - and specification, 34-56
  - outline, 41-47
- Job Classification, 84-91
- Job Evaluation, 57-72
  - common basis, 58
  - defined, 57
- Job in Organization, 11
  - defined, 28
- Job Specifications, 28, 36
  - content, 39, 40, 41-47
  - differences, 38, 39
  - typical, 48-56
- Jurisdiction,
  - extent of, 66, 69
  - scope, 64
- Kind,
  - of activity, 57, 64
  - of work, 84
- Labor,
  - as a commodity, 12, 22
  - aspects of, 9-11
  - division of, 3, 4, 11, 18, 57
  - relations, new order, 20, 24
  - the term, 19
- Level,
  - of activity, 57, 58, 63, 64
  - of work, 84
  - of work, common scale, 65, 66
  - the general, of rates, 79, 80, 81
- Living, cost of, in rating pay, 81
- Management, 16, 17, 18, 19, 26
  - its beginning in industry, 4
  - the term defined, 59, 60
- Managers, responsibilities, 3
- Market,
  - labor, 72
  - rate, 12

- Master and Servant, 4, 15
- Maximum Rates, 78, 79
- Mental Processes and Physical, inseparable, 61
- Minimum Rates, 77, 78
- Money,
  - returns, 71
  - value, of material, 71
- Monotony, no place in job evaluation, 70
- Names on Payroll, 7, 93
- N. R. A., 16
- Officer, payroll administration, 92, 93, 95, 97, 99, 106, 110, 115, 117, 118
- Operating Practice, the term defined, 59, 60
- Opportunity to Progress, 73
- Order, the enabling, 93-106
- Organization,
  - aspect of labor, 11
  - aspects, 40
  - charting, 29-34
  - charts, maintained, 93
  - corporate, 4
  - definition, principle, 18, 19
  - industrial, 3, 4
  - laws of, 64
  - producing, 4, 5
  - relations, 85
  - relations and job analysis, 28
- Organizations, differences among, 116, 117
- Participation,
  - in enterprise, basis of earnings, 81
  - in operations and returns, 19
- Payroll Administration, 9, 24, 25, 26, 27
  - and labor relations, 9-27
- Perspective of the Organization, 30, 34
  - organization chart, 30, 94
- Phases of Activity, 62
- Philosophy,
  - class, 16
  - of labor, 5
  - of labor relations, 15-24
- Plan of Distribution, 9, 25
- Planning, original, 64
- "Point Methods," 70
- Point of View, 25
- Policy, general, 24, 25, 92
- Positions Evaluated, 93
- Prestige, personal, 115
- Price,
  - of commodities, 14
  - of labor, 3, 5, 6, 9, 10, 14
- Procedure, problems of, 114, 115
- Procedures and Records, administrative, 92-119
- Producers, 19
- Production, in society, 17, 18
- Proficiency,
  - differences in, 73
  - in job, 57
  - individual, 79, 80, 81, 82
- Profit Sharing, 80, 81
- Profits, 23
- Promiscuous Activity and Dealing, 5, 6, 25
- Promotion, 72
- Promotions, transfers and, 110-114
- Prosperity, 17, 26
- Purchasing Power, 14, 15, 23
- Qualifications, the individual's, 72
- Range of Work, 58
- Ranges, rate, 73-77
  - number, 74, 75
  - scope, 74
- Ranking Order, jobs in, 66
- Rate,
  - ranges, 73
  - standards, compiling, 74
- Rates,
  - advanced, 13
  - comparisons between companies, 13
  - compensation, limited to ranges, 93
  - equitable, 14
  - incentive, 79
  - market, 13, 14
  - maximum, 78, 79
  - minimum, 77, 78
  - piece, 78
  - progression, 74, 76
- Rating,
  - performance, individual, 99-106
  - scales, 99-104
- Rational Dealing, 12
- Records,
  - inspection, certification, 97
  - of persons employed, 95, 96
- Regulation, 18
- Remote Control, 118
- Responsibility,
  - for program, 92
  - status of, 58
- Reviews, 72
  - payroll, 80, 99

- Rights, native, 17
- Routine Work, 62
- Savings, 14, 15
- Scale,
  - of grades, 59, 61, 62
  - of levels of work, 58
- Science, application to industry and human organization, 5
- Scope,
  - of activity, 57, 58
  - of jobs, degrees in, 62, 63
  - relative, of activities, 34
- Security, 22
- Selection, adequate, 70
- Sequence,
  - job, graded, 66
  - terms in progressive, 62, 63
- Service, length of, in rating pay, 81, 82
- Share in Distribution, 78
- Skilled,
  - the term, 62
  - work, degrees in, 62, 63
- Smith, Adam, division of labor by exchange, 3
- Sorting Machine, 111, 114
- Specialization, 18
  - and integration, 64
  - aspect of organization, 40
- Staff Requirements, 47
- Standard,
  - of compensation, 10
  - of maximum proficiency, 78
- Standardization, 9
  - of jobs, 37
  - of salaries and wages, 37
- Standards, 9, 23
  - compensation, coordination, 73-83
  - equality of, 61
  - equalization, 65
  - how set, 84
  - maintenance of, 43, 44, 92, 93
- Status of Job, 57
- Strength and Endurance, 42
- Structure, aspect of organization, 40
- Supervisory Requirements, 46
- Surpluses, capital, 23
- Survey, analytical, 28, 29
- Terminology, departmental designations, 93, 94
- Terms,
  - how defined, 86
  - in progressive sequence, 62, 63
- Theory, 5
- Time,
  - feature of, 71
  - limits for increases, 82
- Title, job, 35, 84, 85
  - represents standard, 117
- Titles of Administrative Positions, 94
- Transfers and Promotions, 110-114
- Trial and Error, 18, 60
- Turnover, employee, 107
- Unity in Organization, 22
- Unity in Society at Large, 17, 18
- Unity of the Whole, 61
- Values, relative, 78
- Weighing of Jobs, 66
- Weirton Steel Case, 20
- Work,
  - full day's, 78, 79
  - kind of, 72
- Worker, 19, 20
  - manual, 61
  - white-collar, 61
- Worth,
  - abstract, 115, 116
  - the job's, 83